

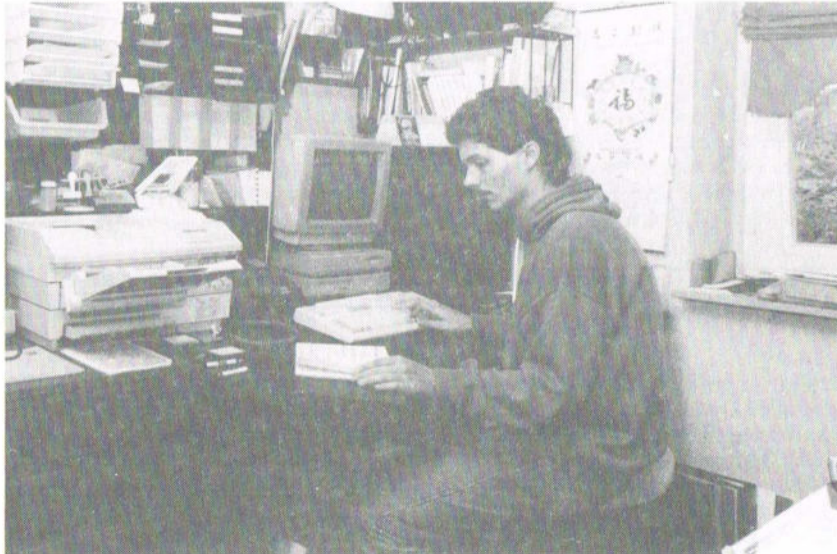


# INTERNATIONAL QL REPORT

*The Definitive Information Source*

*Published by SeaCoast Services*

More Than A Name



*Jochen Merz*

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# NASA Computing

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## Terms of Payment

All our products are delivered with laser printed manual in English, and the software is only available on 3.5" disks. All prices include first class AIR MAIL world wide. Allow up to 3 days for delivery.

Payment in cash or cheque. Cheques should be in NOK (not foreign currency, please) drawn on a Norwegian bank and made payable to P. Monstad.

We are regularly updating our software, and upgrades are normally free of charge. If you need more information, please write for free product information.

## Disk Mate

DM is a very powerful program which enables you to manage your files and disks in an easy manner. Unlike similar programs, DM is fully menu controlled, both when selecting files and commands. File names are listed in columns which are displayed in several pages.

One of the main advantages with DM is the possibility to write a directory back to the original disk. This is very useful, e.g. after you have sorted (descending or ascending, name, type, length, update date and dataspace), changed style (upper, lower and mixed) or grouped files. The group command is the most powerful found in any QL program. It enables you to collect files into groups. Up to 26 groups can be made in one operation, and every group can contain as many files as you want. Each group can be sorted etc. individually. When you are satisfied with the order of the file names on the screen, it is time to write the directory back. What you see on screen is what you get on disk if you use the "Write dir" command!

DM has a very powerful search-and-select routine. This routine enables you to use wildcard search, in the same manner as on the PC (? to replace an unknown character, and \* to replace an unknown string). The files which then are selected (you can also select a file by selecting it manually with the cursor keys and enter or space) can be copied (very fast) deleted, renamed, printed to screen or printer, converted etc.

Only a few of the features in DM are mentioned here, and if you need more information, please write. The current version of DM (v3.20) will not work together with harddisks or level 2 sub-directories etc, but we are working on a new version which will run under the Pointer Environment. Disk Mate requires at least 512Kb of free RAM, Toolkit 2 and a disk station to run. Price: \$43.50 - £22.90 - DM 69.50 - NOK 265.00

## Index Optimum

A brand new version of the program previously called Index. It has now been rewritten from scratch and the benefits are enormous!

So what can it do? Well, with Index Optimum you can create a database of all your files on your disks. Index Optimum then later gives you the possibility of searching a particular file, printing directories out, sorting, updating etc. No more need to search hours through your disk collection for a specific file - Index Optimum does it in seconds! Your directory file may hold up to 1024 disks, but of course nothing stops you from creating more than one directory file! It is extremely fast to create a directory file - takes about 10 seconds per disk, included the time you spend inserting/removing disks from the disk drive. The directory file may at any time be updated, and it still works in incredible speed! Automatic, dynamic memory reservation, which means that you don't need to enter a workspace or similar - everything is carefully catered for by Index Optimum, and it doesn't capture more memory than it needs to! You may create your directory file with or without filedates. If you create it with filedates, the date when the files were last updated is also viewed on screen when searching or printing! The directory file is automatically saved after any updates and also loads automatically when necessary - no need for the user to worry about that! Reads directories of disks in about one second! Printer facilities included! Runs under Pointer Environment, i.e. mouse controlled, but can easily be controlled from keyboard! Available from August/September 1992. Please write for more info.

Price: \$29.90 - £14.99 - DM 44.90 - NOK 175.00.

## Dicey Business

A Football Strategy Game (Soccer) for The Sinclair QL and compatibles with at least 550Kb expanded RAM and 3.5" DD disk station. Some effects with Dicey Business:

\* 4 divisions + non-league. \* FA-Cup, League-Cup and European Cup. \* Two games in one: Manager and Director - Choose yourself! \* A-team and junior team. \* Buying and selling players. \* Records and statistics. \* Players can get booked or sent-off during a match. \* Transcriptions of tables and forms. \* Sponsors. \* Realistic attendances. \* Economic report after each match. \* The club can go bankrupt. \* You may get sacked. \* You may get job-offers from other clubs. \* Penalty-shoot-out in the European Cup. \* Injuries. \* Results and tables from 4 divisions and results from all the cups. \* Talent scout. \* Loading and saving your team. \* Over 350 Kilobytes with compiled SuperBASIC. \* etc, etc...

No football skill is required to play Dicey Business. The menus in Dicey Business are very easy to use, either with the cursor keys or by direct key strokes. Dicey Business supports Epson compatible printers.

Dicey Business is supplied on disk together with a laser printed 14 pages manual.

Price: \$29.90 - £14.99 - DM 44.90 - NOK 175.00.

## EDITORIAL

Another holiday season is at hand, and we at IQLR, wish you a HAPPY, HEALTHY, and PROSPEROUS New Year.

The recent turmoil in the money markets has enhanced the DOLLAR and DEUTSCHE MARK at the expense of POUNDS STERLING. For those of you who have \$s or DMs to spend, this is a great time to buy UK products.

At \$1.65 (approx.) per Pound Sterling, a new GOLD CARD would cost \$330.00 or \$255.00 for DUAL ED DISK DRIVES with 10 ED diskettes, or even a Trump Card from QubbeSoft for \$150.00. The SOFTWARE you were thinking of getting, is also a BARGAIN. Give yourself an early Christmas gift by ordering now and avoiding the rush.

We had hoped that MIRACLE SYSTEMS would have announced the release of new products in time for this issue, but alas, that wasn't the case. It now appears that January 1993 will be more realistic for any new products.

It's always been Miracle's policy to not announce a new product until they are ready to ship. This is a policy IQLR strongly endorses. I'm sure many of you remember the pronouncements of Sinclair (and a number of others) concerning new products that took months to appear, or never saw the light of day.

One thing we do know is that a plug-in circuit card that will enable PC users to emulate the QL is under development. The long awaited GRAPHICS CARD has grown far beyond a mere Graphics Card, and in fact we believe, that when coupled with the Gold Card, will actually be a new COMPUTER. Watch IQLR for developments. We plan a multi-picture layout of Miracle's new products as soon as we receive them.

In this issue Jochen Merz of Germany is the subject of the "MORE THAN A NAME" feature, with the QLEA group of the UK being the highlighted group. We hope you'll find both quite interesting.

Although we have several choices for the next "More Than A Name" feature, we still lack a User's Group to spotlight. How about yours???

Tim Swenson of the CATS group (U.S.), sent an article, "CONCEPT: POWERFUL AND FAST QL CLONE", that he downloaded from MAUSNET which we've included,

At press time, the MINERVA 1.94 had not been released. Our information suggests that besides correcting a bug that has persisted since the JS ROM, facilities to take advantage of the HERMES chip are also included. TF Services is the distributor of both MINERVA and HERMES. Contact them at: (UK) 071 724 9053.

Last but not the least, the QLEA ROM SWITCH is now being supplied as either an internal or external version. (See Ad).

### **Tonkin's First Computer Dictionary**

**Advanced:** (adj.) doesn't work yet, but it's pretty close. See: bug, glitch.

**Bug:** (n.) any program feature not yet described to the marketing department.

## **THE JOCHEN MERZ STORY** **(Growing Up With Sinclair Computers)**

DUISBERG, GERMANY - JOCHEN MERZ

I'm not very good writing in English. Well enough for you to understand my technical manuals, but definitely not for curriculum vitae. Anyway, you should understand what I'm talking about, and if not, condemn the German education system for being unable to teach proper English.

The most interesting year was 1980 - I was a 14-year-old boy who was very interested in computers you could see in large stores, such as the P.E.T. and similar Commodore machines or the Tandy models - all far too expensive! Then, in the same year, a German magazine reported about a revolution in computer technology - the ZX80. Of course, I ordered one, but it was a big problem as Sinclair Germany badly represented Sinclair (always did, and even became worse).

Problems with different tape recorders forced me to return the machine three times, but it was still worth the effort. The next add-on was the 16K RAM pack (again, problems) and the ROM upgrade to make it ZX81 compatible, which was available quite soon after I got my ZX80 working. This was followed by problems with the ZX Printer, which took over six months to arrive - but as a Sinclair customer you get used to problems.

At the time the only real competitors were the VC20 (terrible, think of the screen resolution) or the ATARI machines, which were good but unaffordable. I stuck to the ZX80, upgraded soon to the ZX81 and bought all kinds of stuff for it. In those days no one was writing programs for the machine, so I started doing it. Some friends joined in, and some small games and utilities were sold.

Other companies charged huge amounts of money for their programs, but I never did. Without being able to get books it was very difficult to learn machine code programming. I took the opportunity and wrote a book (in German) explaining the ZX80 processor and how to use it on the ZX81. This book was printed by Profisoft, a company every ZX and Spectrum user will probably remember. The first real machine code program was a game - Alien Curse, written together with a friend (also sold by Profisoft). I've always enjoyed programming games but this is unfortunately a very thankless job in financial terms. (I always liked playing Arcades and still like them very much).

I bought a ZX Spectrum as soon as it became available. Add-ons followed as soon as possible, like the Interface 1 and 2, Beta-Disk interfaces and similar things (when I think about it, I spent an enormous amount of money for useless things like Lightpens etc. - but probably every computer enthusiast did and still does). I wrote games for the Spectrum, also sold by Profisoft, a thicker machine-code-book followed and a book describing the facilities of the Interface 2.

In those days not very many Germans programmed for the "English machines", and the revenue from all the things I did was next to nothing. Large companies earned money by selling the stuff developed by kids who did not know business but knew how to program. From time to time I had the chance to try other machines, e.g. C64 or the Memotech series.

I always preferred the Sinclair machines, because of the much better BASIC (it was always better, compared to competitors). I also did other jobs for Profisoft, translations, service etc. When things became too bad I told them to stop selling my stuff and that I'd chosen another German software company. Together with friends developments like ROM

## MERZ - (CONT'D)

modifications were done and I started writing tools like a disassembler, disk doctors and similar things, all for the Speccy. In the beginning everything was fine but after a short while I noticed that this company was starting to cheat me. At the same time I visited two or three Microfairs, I've always loved large British computer shows.

Then the QL appeared and I bought one for a lot of money, together with a CST disk interface and two disk drives - it cost a fortune back then. I was impressed by the power of the system, forgot about the Spectrum and started learning 68000 machine code - again without any help, books etc.

And then, for me, the most interesting computing time started: the first program on the QL was PENGI (or PINGO), sold to ABC Electronic in exchange for better QL equipment (i.e. 3.5" Disk drives etc.). For being the first go on an unknown machine, especially in machine-code, the game was quite good and people still like it.

Encouraged by this, ABC asked me to program a graphics program which could be used with his mouse interface - a revolution those days (Andreas Budde always loved the Mac, so he introduced a mouse to the QL). This led me to GigaChrome - QL users which know the scene for more than 7 years will probably remember it.

Other things followed, Toolkits, QWriter etc., and again I was swindled by English dealers (I can't remember the names, it's too long ago). But I can remember another person which had a very bad influence on the German QL scene, to the German QL club, and to many members including myself: Mr. David B. Smith - since disappeared and never seen again. He and Martin Bernd created Ultrasoft and after Mr. Smith disappeared, Mr. Bernd continued with Ultrasoft and with selling my products, but problems continued. I finished school, did civilian work (you have to, if you're not going into the army) and started being a student. This left me with enough spare time to allow me to decide to do everything myself: production, copying, sale (and some jobs and service for ABC). This led to much better customer relations, better service and I immediately noticed that all those people earned a lot of money out of my work. When I think about the connections I have today with the number of QL users which existed 5 years ago they must have made A LOT OF MONEY! Again, I learned and paid my dues, and now I think I'm clever enough to avoid these problems. Unfortunately, times have changed, and it does not make a lot of sense to warn young QL programmers now: almost no-one produces software!

OK, back to the good stories: I visited nearly every Microfair and this is where I first discovered QRAM. The version which was sold had only two options: Files and Jobs, but it was very impressive! I can remember it as if it happened yesterday. I was so impatient that I could not wait to get home and load it into my machine. The only thing I knew was: this was the best I'd ever seen and I wanted to use this environment. I asked QJUMP for documentation, and from that point onwards, all programs written by me used the Pointer Environment.

From here on everything is probably within the memory of most QL-users: many, many products have been developed and they all use the Pointer Environment - the way to the future was clear to me as soon as it was released. From time to time I visited Tony Tebby in England and some new definitions were done which led to improvements on the software. For example, on one visit I brought the first Menu Extension over, implemented as a set of vectors. Within two days Tony extended the Thing interface and I changed Menu to use it - and the real Menu Extension Thing was born!

## MERZ - (CONT'D)

Bad news - the sale of Sinclair, Amstrads drawback of the QL etc. did not make me surrender - in fact it encouraged me. But, a replacement for the QL had to be developed, that was for sure. The Futura had been dead for years, Thors -(hmmmm, who really wants a Thor???), all in all it was never a good idea to produce my own machine. Others can do it better and cheaper, and when a customer wants to spend a lot of money he does not want to spend it for a machine which will never be supported by any company but the small one who produces 50 or a hundred!

I thought the Norwegian company which produced the QL-Emulator for the ATARI ST did the right thing. ATARI's were cheap, good machines, very similar to the QL, and the most flexible machine you could buy. Even in the beginning you could turn it into a Mac or DOS machine, the TOS programs were not that bad (and now some are quite good), and being able to emulate QDOS made it perfect. Tony Tebby improved the drivers and this was the final clue that for me, this was it!

The Norwegian emulators had some disadvantages: they were unique and therefore expensive. A very good friend thought about another solution, which would be cheaper and more flexible, and this led to the production of the Extended4-emulator. This gave Tony Tebby the opportunity to see how programs behave in different screen resolutions. The Extended4-emulator was the first thing which had higher resolution than 512x256 pixels. The result was not very surprising. With the exception of Tony's and my software, next to nothing worked properly. This was a good demonstration on why programmers should stick to good programming rules. The appearance of this card forced programmers to program in a better way, and this prepared the way for future screen resolutions!

I could take the opportunity now and write about the products you can get from me, but this would fill up many many pages. I won't do it, because I think this article is the wrong place. I don't like selling products by saying: here is the product, you definitely need it. I prefer the other way: a customer needs something and maybe I can offer them the right program.

There are so many things I could write about, but you're probably already tired. At the moment I'm still studying computer science, but I find it very boring and, to be honest, the QL keeps me busy seven days a week, although less than 10% of my time is left for programming and this worries me a bit.

Despite the fact that you cannot get rich programming for the QL (not even earn a living), it is still a lot of fun because the machine is good and the users are nice. I always enjoy meetings throughout Europe and I love to meet the customers personally. I think there is a kind of "family" touch with many customers.

I want to thank all the customers which helped me to support the QDOS world by being honest. It seems that people have understood that no QL programmer expects to sell tens of thousands or even thousands of their programs, but if they do not sell a fair number then there is no real reason to continue. I'm not speaking on my own behalf now, as I am selling other peoples' products as well, (under fair conditions, of course). These people do not make a living out of it, (in fact they could not), but it is very disappointing if the work is completely ignored.

## MERZ - (CONT'D)

I do not want to miss the QDOS scene, and I think most of you do not want this either. I am sure that I will continue to provide support for as long as possible, and at present it looks like as if it will be possible for a long time. This really depends on YOU: support the QL by writing programs (if they are not commercially viable, then put them into PD or club libraries etc.), by writing articles and of course by not forgetting us, the few QL dealers which are left.

You may think now that I'm doing nothing but sitting in front of my computers: in fact, I'm spending an average of 9 to 10 hours a day for computers, but not necessarily with computers. I meet a number of people every day and that's very important, I think. It gives also a lot of fun playing Popoulus II against a friend or the girl friend on two machines! Try it!

Even I have to take some spare days from time to time - I like skiing very much and I love staying two weeks a year at Miami Beach for summer holidays without a computer.

So, that's it for now. The future will bring us many new items, be sure, but at present I am working on the software for our new QVME QL-Emulator card for the Mega STE and TT. Right now, it is running perfectly, but the same software refuses to run on my 68030 machine. It will be solved, but it is more fun to see what the card is able to do: can you imagine text87 at 900 by 900 pixels? Or a Files menu with 60 rows and 7 columns? Fantastic! The only things QDOS lacks now is a font size larger than 6x10 pixels.

OK, enough. Thank you very much for reading my story.

## A DIRECTORY PRINTER

OAK RIDGE, TENNESSEE, USA - MEL LAVERNE

If you have just a few files on, say, flp1, a quick and dirty hard copy of the directory could be obtained by OPEN #3, SER1: STAT #3: WSTAT #3. Unfortunately, for more than about 25 to 30 files, the result is distinctly un-neat. Whence, the following effort to get a mite better organized.

DP\_WSTAT accepts input from the device of your choosing (flp, mdv, etc.) with output to the screen and, optionally, to a printer. The output is paged, with each page carrying up to 100 file names with statistics (length, date and time last saved). Each page is headed with the device name, if any, an optional title, free and total sectors, and the number of files. A footer provides current and total page numbers together with date of printing.

The files may, optionally, be ordered by file name. Be warned, however, that if your file names contain a mixture of upper and lower case letters and numbers, the results may not be what you expect.

```
1000 REMark Filename = DP_WSTAT   c M. E. LaVerne   October 1992
1010 REMark Directory Printer, Wild-card STATistics
1020 :
1030 REMark  v--v--v--v--v--v--v--v--v Main v--v--v--v--v--v--v--v
1040 :
1050 CLS: CLEAR: CLOSE #3, #4, #5
1060 INPUT 'Directory of which device ? ( Default = flp1_ ) '; dev_in$
```

## DIRECTORY PRINTER - (CONT'D)

```

1070 IF dev_in$ = " THEN dev_in$ = 'flp1_'
1080 INPUT 'Working storage on which device ? ( Default = ram1_ )'; dev_out$
1090 IF dev_out$ = " THEN dev_out$ = 'ram1_'
1100 INPUT 'Write Directory Title or just press ENTER: '; title$
1110 read_dir: un$ = 'un': display_dir
11120 PRINT #0; 'Sort files ? (Y/N) ';; sortem$ = INKEY$(-1)
1130 IF sortem$ == 'Y' THEN
1140   un$ = ": PRINT '\Sorting...\n
1150   qsort fi$, stat$, 1, nfiles: display_dir 1
1160 END IF
1170 BEEP 10000, 5
1180 PRINT #0\Print'; un$; 'sorted files ? (Y/N) ';; printem$ = INKEY$(-1)
1190 IF printem$ == 'Y' THEN display_dir 3
1200 BEEP 10000, 10
1210 :
1220 REMark v--v--v--v--v--v--v--v--v--v-- Read Directory v--v--v--v--v--v--v
1230 :
1240 DEFine PROCedure read_dir
1250  name1$ = dev_in$ & 'dir1': name2$ = dev_out$ & 'dir2'
1260  DELETE name1$: DELETE name2$
1270  OPEN_NEW #4; name1$: OPEN_NEW #5; name2$
1280  DIR #4; dev_in$: WSTAT #5; dev_in$
1290  CLOSE #4: OPEN_IN #4; name1$
1300  INPUT #4; dev_name$, stats$

```

Count the files and find the longest filename.

```

1310  nfiles = 0: lmax = 0
1320  REPeat loop1
1330   INPUT #4; a$: IF EOF(#4) THEN EXIT loop1
1340   nfiles = nfiles + 1
1350   lfi = LEN(a$): IF lfi > lmax THEN lmax = lfi
1360  END REPeat loop1

```

"Odd" determines whether the last line to be printed is a full line. "Maxlin" is the total number of lines to be printed, whether full or partial. "Pages" is the total number of pages, of up to 50 lines each, to be printed.

```

1370  odd = nfiles MOD 2: maxlin = nfiles DIV 2 + odd
1380  pages = maxlin DIV 50 + ((maxlin MOD 50) > 0)

```

Identify the input device.

```

1390  IF dev_in$(1) == 'F' THEN in_dev$ = 'disk': ELSE in_dev$ = 'cartridge'

```

Now we close channel 4 and get rid of the simple directory information. Close channel 5 and reopen for input of names, sizes, dates, etc (All this closing and reopening is like using RESTORE with DATA statements).

```

1400  CLOSE #4: DELETE name1$: CLOSE #5: OPEN_IN #5; name2$
1410  DIM fi$(nfiles, lmax), stat$(nfiles, 26 + lmax): i = 1

```



## DIRECTORY PRINTER - (CONT'D)

```
1420 REPeat loop2
1430 IF EOF(#5 THEN EXIT loop2
1440 INPUT #5, a$, b$
```

We want to avoid dir1 for two reasons: 1) it's irrelevant; 2) it was not counted when determining nfiles and would throw our count off.

```
1450 IF a$ <> 'dir1' THEN
```

c\$ is just a rearrangement of the 'WSTAT' information to my personal preference. If you prefer something else, feel free to modify c\$, but change the '26' in the DIM statement to the new character count. FILL\$ simply lines up the various c\$.

```
1460 c$ = b$(5 TO 12)&b$(22 TO 24)&b$(18 TO 21)&b$(15 TO 17)&b$(25 TO 32)
1470 fi$(i) = a$: stat$(i) = FILL$( ' , lmax-LEN(a$)) & c$: i = i + 1
1480 END IF
1490 END REPeat loop2
```

Close the current channel for the last time and delete the corresponding name.

```
1500 CLOSE #5: DELETE name2$
1510 END DEFine read_dir
1520 :
1530 REMark v--v--v--v--v--v--v--v Display Directory v--v--v--v--v--v--v--v
1540 :
1550 DEFine PROCedure display_dir(ch)
1560 LOCAl i, lines, offset, form$, imax
```

I've used form\$ (form feed) as below because CHR\$(12) prints to the screen as a rectangular blob. Esthetics, perhaps ?

```
1570 lines = maxlin: offset = 0: form$ = FILL$(CHR$(10), 5)
1580 IF ch = 3 THEN
1590 OPEN #3, ser1: form$ = CHR$(12)
```

Restricting title length to 42 simply guarantees that, for the particular printer pitch used for the header (8.5/in), the title will not spill over to the next line.

```
1600 IF LEN(title$) > 42 THEN title$ = title$(1 TO 42)
1610 BPUT #3; 27,80, 27,108,10, 27,120,1, 27,107,0
1620 END IF
1630 FOR page = 1 TO pages
```

If printer output was selected, set the printer pitch to Pica, condensed, and expanded (8.5/in) for the header.

```
1640 IF ch = 3: BPUT #3; 27,80, 15, 27,87,1
1650 header ch
```

'Unexpand' and go to condensed Elite for the body of the printout.

## DIRECTORY PRINTER - (CONT'D)

```
1660 IF ch = 3: BPUT #3; 27,87,0, 27,77
```

Determine the number of lines for the current page and print them.

```
1670 IF lines > 50 THEN
1680   imax = 100: lines = lines - 50
1690 ELSE
1700   imax = 2*(lines - 1): IF odd THEN imax = imax - 1
1710 END IF
1720 FOR i = offset + 1 TO offset + imax STEP 2
1730   IF ch = 3 THEN
1740     PRINT #3; fi$(i); stat$(i); TO 70; fi$(i+1); stat$(i+1)
1750   ELSE
```

Note that the screen printout puts the entries in groups of two. This was done because the entries are too long for two on a screen line.

```
1760     PRINT fi$(i); stat$(i)\fi$(i+1); stat$(i+1)\
1770   END IF
1780 END FOR i
```

If the number of files is odd and this is the last page, print the last entry.

```
1790 IF odd AND (page = pages) THEN
1800   fileno = offset + imax + 2: PRINT #ch; fi$(fileno); stat$(fileno)
1810 END IF
```

In any event, update the offset into the fi\$ and stat\$ arrays, print the footer, and proceed.

```
1820 offset = offset + imax
1830 footer ch
1840 END FOR page
1850 END DEFine display_dir
1860 :
1870 REMark   v--v--v--v--v--v--v--v--v Print Header v--v--v--v--v--v--v--v
1880 :
1890 DEFine PROCedure header(ch)
1900 PRINT #ch;\dev_name$; TO 18; title$\stats$\
```

Check for disk or cartridge input.

```
1910 IF dev_in$(1) == 'F' THEN in_dev$ = 'disk': ELSE in_dev$ = 'cartridge'
```

Avoids the awkward 'There are 1 files' printout. Esthetics, again !

```
1920 SElect ON nfiles
1930   = 1: PRINT #ch; 'There is 1 file';
1940   = REMAINDER : PRINT #ch; 'There are '; nfiles; ' files';
1950 END SElect
1960 PRINT #ch; ' on this '; in_dev$; '.\
1970 END DEFine header
```

## DIRECTORY PRINTER - (CONT'D)

```
1980 :
1990 REMark v--v--v--v--v--v--v--v Print Footer v--v--v--v--v--v--v
2000 :
2010 DEFine PROCedure footer(ch)
2020 PRINT #ch; '\Page '; page; ' of '; pages; ' . ' ;
2030 PRINT #ch; DATE$; ' The files are '; un$; 'sorted.'; form$
2040 END DEFine footer
2050 :
2060 REMark v--v--v--v--v--v--v--v Quicksort Procedure v--v--v--v--v--v--v
2070 :
```

A standard 'Quicksort' except for keeping array2 in step with array1.

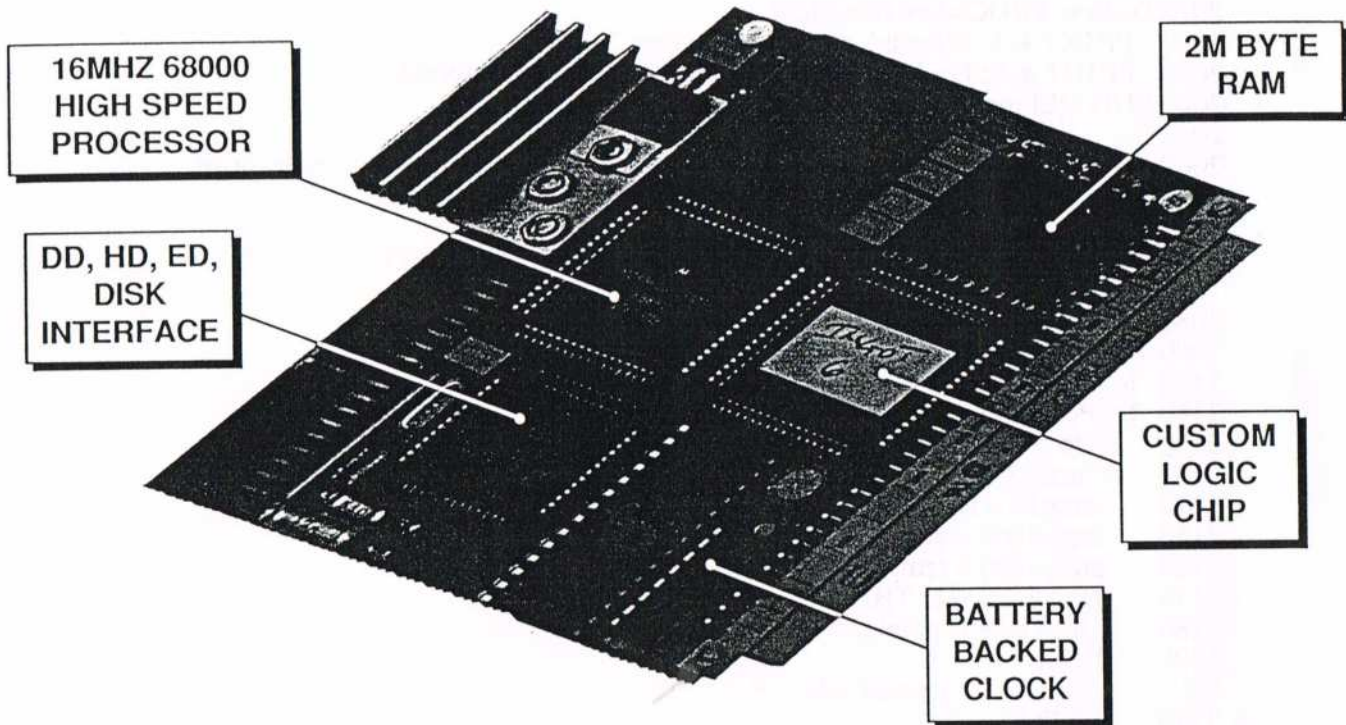
```
2080 DEFine PROCedure qsort(array1, array2, bottom, top)
2090 LOCAL loop, lo, hi, pointer, temp$
2100 lo = bottom: hi = top: pointer = bottom
2110 REPEAT loop
2120 IF lo >= hi THEN EXIT loop
2130 IF array1(lo) > array1(hi)
2140 temp1$ = array1(lo): temp2$ = array2(lo)
2150 array1(lo) = array1(hi): array2(lo) = array2(hi)
2160 array1(hi) = temp1$: array2(hi) = temp2$
2170 IF pointer = lo THEN
2180 lo = lo + 1: pointer = hi
2190 ELSE
2200 hi = hi - 1: pointer = lo
2210 END IF
2220 ELSE
2230 IF pointer = lo
2240 hi = hi - 1
2250 ELSE
2260 lo = lo + 1
2270 END IF2280 END IF
2290 END REPEAT loop
2300 IF ABS(top - bottom) < 2 THEN RETURN
2310 qsort array1, array2, bottom, pointer - 1
2320 qsort array1, array2, pointer + 1, top
2330 END DEFine qsort
```

### Tonkin's First Computer Dictionary

**FORTTRAN:** (n.) an ancient programming language which changed IF's to GOTO's by using a strange three-valued logic on binary computers.

**Hexadecimal:** (adj.) of or referring to base-16 numbers - binary numbers grouped four digits at a time so as to quadruple the opportunity for glitches and bugs. Originated as a means of counting on the fingers of one hand, using the thumb for the 'carry'. Purists who don't like to use the thumb at all prefer 'octal'. See: Octal, Binary.

# MIRACLE



## QL GOLD CARD

**£225 inc. (£200 export)**

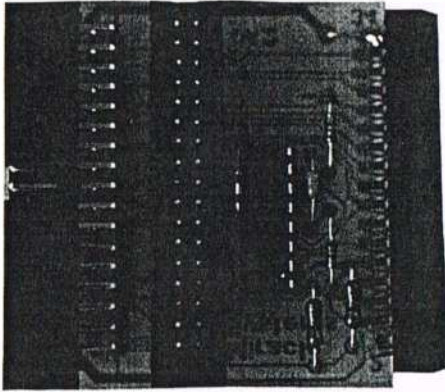
This is the expansion that has been revolutionising the QL. It is very easy to fit - it simply plugs into the expansion port at the left hand of the QL - and once fitted it will instantly increase the execution speed of the QL by about 4 times due to the presence of a 16MHz 68000 on board. There is 2M of fast 16 bit RAM of which QDOS sees a contiguous 1920K. The remainder is used for shadowing the QL's ROM and display memory and for the GOLD CARD's own code.

There is a disk interface which can access 3 mechanisms (4 with the DISK ADAPTER) of 3 different densities, DD (double density, 720K), HD (high density, 1.44M) and ED (extra high density, 3.2M) in any mix. The disk interface connector is the same type that was fitted to the TRUMP CARD so most QL compatible disk drives can be used. Please note that DD drives still give a capacity of 720K per diskette. Our DUAL ED DISK DRIVE allows the GOLD CARD to access DD, HD and ED diskettes.

Another feature is the battery backed clock. When the QL is switched on the contents of the clock are copied into the QL's clock so that the time and date are correct. The firmware in the ROM gives the GOLD CARD all the functionality of the TRUMP CARD like TOOLKIT II and there is a sub-directory system for floppy and RAM disks.

Physically the GOLD CARD is about half the size of the TRUMP CARD and so fits almost all within the QL. Its current consumption is well under the allowable maximum so no special power supply is required. The GOLD CARD comes with a 14 day money back guarantee and a 2 year warranty.

# SYSTEMS



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## QLEA - QUANTA SUBGROUP OF EAST ANGLIA

BRAMERTON, NORWICH, NORFOLK, GREAT BRITAIN - SIDNEY HUMPHREYS



**Members of the East Anglian Subgroup hard at work.  
Standing, from left to right: Geraint Jones, Derek Dobson,  
Syd Humphreys, and seated Chris Howard.**

Until three years ago, there had never been a QUANTA subgroup in the Eastern counties of Norfolk and Suffolk. A couple of abortive attempts to start a group were made, but it was Geraint Jones who finally managed to get a nucleus of interested QL owners to meet monthly at Thetford, a small town on the western edge of the East Anglian area. Once that was seen to be successful, several QL owners living further to the east of the county, who considered Thetford too far for them to travel, asked if a subgroup could be formed to serve them, preferably near Norwich.

Because of the previous failures, we decided that rather than form a separate and completely new club, we would extend the operational area of the existing group by having a second meeting every month at Bramerton, a village just outside Norwich, about thirty miles to the east of Thetford. The effective catchment area for this was the whole of

## QLEA - (CONT'D)

Norfolk and Suffolk, as as most of the Thetford members would also come to Bramerton meetings, we were assured of fairly good attendances right away.

The circular letter in which I announced the first Bramerton meeting said that the business would run from 2 pm until 5 pm. I received a reply from one person who said no one would want to spend three hours at a computer meeting, and suggested we closed at 4 pm. In the event, when 5 o'clock came, nobody wanted to go home and I finally locked up at 6:30 pm. Subsequent meetings at Bramerton went on even later, then by request, started earlier. Now, they regularly begin at 8:30 am and go on until 7 or 8 pm. They can't all be trying to escape the washing up at home.

Although these meetings prospered, Thetford unfortunately withered and died. It was a great pity because a highlight of the Thetford meetings was the excellent supper of fried fish and chips from a shop opposite the meeting hall with which we used to end the meetings. Regretfully we have no such facility at Bramerton.

What goes on at our meetings? Well, I don't suppose we differ very much from other subgroups in that computer enthusiasts gathered together always find plenty to talk about. We help each other with problems, show off the latest software we have purchased or perhaps have written ourselves. In the latter case, there are always eggheads about who first find bugs we didn't think existed, but then always help to eradicate them.

Almost without exception, someone brings a faulty QL, or a monitor, or a printer to be repaired. We carry a quantity of spare chips and keyboard membranes, and like medical students gathered round a surgeon, the learners watch while an expert opens up the piece of sick equipment, diagnoses the problem, then performs a transplant which effects a cure. We give instruction to those who have never handled a soldering iron before, or who have never desoldered a chip from a PCB. We get some well mangled results at first. I once brought along our zapped coffee grinder, discovered its bridge rectifier had burnt out and, lo, someone had on hand the very component that was needed. I had to warn the members that this repair was an exception and we could not accept broken washing machines or microwave ovens.

But we are proudest of the hardware projects that our members have designed to enhance the performance of the QL. We began by targeting a number of worthwhile tasks. We realized that the more ambitious jobs were very difficult, would take a long time to reach fruition and needed more working capital than the subgroup possessed. They also needed much dedication and support and I had seen in other clubs how such projects could fall by the wayside as enthusiasm dwindled. We started by inviting members to contribute a small sum each as working capital, and were pleasantly surprised at the good response. We decided our first project would be small so that it could be designed, built and marketed quickly. If this were successful it would achieve two objectives: it would add to our working capital, needed for more ambitious projects, and maintain the momentum of our enthusiasm. So we began with a battery backup clock. Traders within the QL orbit pooh-poohed the idea - everybody already had one; they wouldn't sell. Undaunted, we made the first batch and promptly sold out. While working on a second batch, the ROM Switch project was designed, a prototype built and tested, and a first production run completed. By the time we started advertising it, we had sold out of the second lot of clocks. The ROM Switch filled a gap in the market. Good as MINERVA is, it does reject certain old tried favourites of the software, and to run our old nonconformist programs requires a second QL or it's a screwdriver job and changing over the ROM chips. With our project,

## QLEA - (CONT'D)

either MINERVA or JS/JM ROMs could be selected at the flick of a switch. It proved popular at once.

Our second production run of the original design is selling well; we have now brought out a new model with simplified fitting - no soldering, no drilling, just plug in and go - and we have produced a further model which works with MINERVA II. And while all this is going on, other more advanced ideas are being researched.

Heading our little team are Geraint Jones and Gary Hitt, who work so well together that they appear to read each other's thoughts. Other enthusiasts mill around them, giving assistance, but are largely 'hewers of wood and drawers of water'. No one in the subgroup has gained any personal profit from our labours. Any surplus has gone into the kitty and finances further production and future projects.

I have attended several other subgroups and I feel that QLEA differs from most others because of the quite outstanding enthusiasm of its members and the spirit of mutual help that is manifest at every meeting.

## TIDBITS

OAK RIDGE, TENNESSEE, USA - MEL LAVERNE

The following constitute miscellaneous thoughts on how to (or, perhaps, not to) do things.

I consider the first example to be an exercise in dangerous living, a disaster waiting to happen. I believe it is appropriately named. All that is required is some glitch just after the DELETE and all is lost ! (I have actually seen this published, albeit with a different name.)

```
100 DEFine PROCedure Update_for_the_Foolhardy
110 DELETE 'YourFileName': SAVE 'YourFileName'
120 END DEFine Update_for_the_Foolhardy
```

Going to the other extreme, consider the following:

```
200 DEFine PROCedure Update_for_the_ParanoId
210 SAVE tmp:SAVE tmp2: f$ = 'YourFileName'
220 CLS: WSTAT f$: DELETE f$
230 RENAME tmp TO f$: WSTAT f$: DELETE tmp2
240 END DEFine Update_for_the_ParanoId
```

Here we save two copies initially and don't delete the second one until after the first has been safely tucked away. Safe, but somewhat overdone. I've inserted the WSTATs to provide a measure of change since the last update, handy but not essential. The CLS makes the presentation cleaner.

For a more concise, but no less safe, procedure I offer the following:

```
300 DEFine PROCedure Update
310 SAVE tmp: f$ = 'YourFileName': CLS: WSTAT f$
320 SAVE_O f$: WSTAT f$: DELETE tmp
330 END DEFine Update
```



# A Quantum Leap in QL Wordprocessing

We are proud to present our new state-of-the-art wordprocessor, text87plus4. After a long period of development leading to its first release, and another four months spent incorporating users' suggestions, the definitive, optimised version 3 of plus4 is ready. plus4 is not just an improved version of the original text87; it is a complete rewrite from scratch. Recent technology advances have allowed us to develop a program which is MILES ahead of any QL application. We have kept the technology of the original text87, including our state-of-the-art series of printer drivers which exceed the capabilities of the latest PC wordprocessors.

## text<sup>87</sup> plus4

### +1 USER FRIENDLY TO THE EXTREME

You will hardly ever need our new well-written manual. An automatic setup and installation program allows you to select a suitable driver for your printer and copies all the necessary files to your disk. Run plus4 and a menu allows you to load a file or start a new one. An extra line of instructions and another line containing the current setting are displayed. Press <F1> and a window offers more help related to the menu options (context-sensitive). If you select load you do not have to remember the file name; just press <UP> or <DOWN> for a list. Use the same keys to select the file that you wish and press <ENTER>.

This user-friendly command system governs the program in every area. Extensive context-sensitive help is only an <F1> away. No need to type in file-names, etc. if the program can offer a list in a selector box. Commands and key-presses are highly compatible with those used in Quill and function keys perform the same operations.

### +2 THE MOST POWERFUL QL WP

Plus4 provides all the navigation and editing facilities you would expect and a lot more. Extensive editing facilities include cursor move (by character, word, line, paragraph, screen, page) erase (by character, word, line) block operations (copy, move, delete) goto (line, page, top, bottom, section, block). Insert and overwrite modes. Very fast search and replace backwards and forwards, case dependent and independent. Special characters include hard-space, hyphenation, hard and soft hyphens. In operation plus4 reformats the text as you edit and preserves the format of each paragraph no matter how many different formats you use in your text. Everything is automatic.

As a Quill user you would naturally expect your wordprocessor to remember different tab and margin settings for a document. You would expect to freely add to old texts without having to bother about those settings over and over again. Not surprisingly, text87 is the only other QL program that supports this important, user friendly feature of Quill.

File Operations include load, save, merge, block save (in plain ASCII or as fully formatted document) import (Quill files retaining bold, underlined, etc. or any other file, including those exported from Archive and Abacus or from other programs). The combination of all these powerful commands enables you to move text from one document to another effortlessly.

Integrated Spell Checker displays selector boxes for browsing the dictionary and automatic replacement of the selected word. This is automatically capitalised if the original began with a capital. Choose between large (over 210,000 words) and small English dictionaries or French or German (all supplied with the program). You can add any word in your text to the dictionary by just pressing a key. Your word lists can be saved and loaded at will or added to the dictionary on a permanent basis. (You can actually edit the dictionaries to your requirements).

Multi-Window Multi-Document plus4 goes far beyond multi-tasking. With one copy of plus4 up to 8 document windows can be open simultaneously. Up to 8 files can be on screen and more than one window can be open over a document so that you can edit the text while looking at a different part of it or at a different document. Resize, Zoom, Tile and Stack commands allow you to arrange the windows manually or automatically and switch instantly between them.

Page-Preview and Pagination Page and column ends are constantly displayed on the screen. plus4 takes into account all the changes of line spacing (you can fine tune the line spacing in different parts of the text between 0 and more than 1 inch). The Page preview command shows your text in full A4 (and other size) pages. Each word is represented by a rectangle, giving a realistic picture of the printed page before you commit the text to paper. This command alone will save you a lot of time and effort.

### +3 UNRIVALLED PRINT QUALITY

In text and character formatting, text87plus4 is miles ahead of the so-called competition. Simply, no other QL program can produce similar results. Used with the appropriate printer-driver, text87plus4 can utilise the different founts and character sizes built into modern printers. It fully supports proportional spacing (such as used for this text) and justifies correctly. You can use any combination of small and large founts on the same line and be assured of a perfect printed result. You can set up multiple paragraph formats with different margins and line-spacing for each. You can use any combination of ordinary tabs with right, centre and decimal tabs in each line of text. You can also format the page the way you want, using several columns plus headers and footers. For desktop publishing, you can use several different page layouts in the same document.

WYSIWYG (what you see is what you get-pronounced wizzy-wig) Years ago this word referred to the absence of printer control codes from the screen. It is now used to distinguish word-processors which display different amounts of line-spacing and different character sizes and styles (e.g. double width, proportional). text87plus4 is the only QL wordprocessor that can be called WYSIWYG by current standards.

### +4 FASTEST QL WORDPROCESSOR

Figures speak for themselves. We tested text87plus4 on a QL with memory expansion and disk-drive and on an Atari ST with QL emulator. A 70 page text of over 24,000 words and 141,000 characters was used for these tests. Load document: 25s (STQL 17s). Save document: 37s (STQL 32s). Automatic search and replace (includes automatic reformat of modified text) 580 instances: 43s (STQL 14s). Change justification from full justified to left justified or back: less than 2s (STQL 1s). Change right margin from 66 to 72 units and reformat whole document: 65s (STQL 17s). Move block of 10 pages from top to bottom (including manual marking and positioning): 35s (STQL 15s). Scroll the whole screen over text line-by-line (either up or down) 100 lines: 19s (STQL 5s).

plus4 is supplied with over 30 ready-made printer drivers supporting 9pin and daisywheel printers. Extra drivers for 24pin, Bubblejet, Deskjet and laser printers support the resident letter-quality founts built into the printer. All our drivers come with predefined translates for QL's extended character set.

plus4 is fully compatible with all QL roms, Gold Card, ST QL, etc. Requires disk drive and 256K memory.

#### Prices (inclusive of Air Mail to overseas)

text87plus4	£ 79.00
upgrade to plus4 from v. 3.00 (last chance)	£ 39.00
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## TIDBITS - (CONT'D)

Note that, if all goes well, tmp is never used; it is just a place holder. "SAVE" is used on the off-chance that "tmp" is on the directory; you then have the option of aborting the save or overwriting. "SAVE\_O", on the other hand, is used in the next line in order to avoid that option. As before, the WSTATs and CLS are your choice.

Incidentally, I do realize that file recovery programs exist; it's just that damage prevention seems much better than repair.

Changing the subject, the signum function of  $x$ , commonly abbreviated  $\text{sgn}(x)$ , is defined to be +1 if  $x > 0$ , 0 if  $x = 0$ , and -1 if  $x < 0$ . IQLR4 carried a version of this function that struck me as too complex. Following are two simpler ways of doing the same job (There are more.):

```
400 DEFine FuNction Signum(x)
410 IF x < 0 THEN RETurn -1: ELSE RETurn x >
0420 END DEFine Signum
```

I believe the following to be the ultimate in compactness. Would anyone care to prove me wrong? (I don't count elimination of spaces; they're in for purely cosmetic reasons)

```
500 DEFine FuNction Sgn(x): RETurn (x > 0) - (x < 0):END DEFine Sgn
```

## VAPORWARE??

TIVERTON, RHODE ISLAND, USA - DICK TAYLOR

In the first issue of IQLR, eighteen months ago, we encouraged QL users to support a new group being organized by Dr. Sohail S. Bhatti, to be known as the QL Advancement Working Group (QLAW). The stated goal of this group was to create a SuperQL by pooling resources. Included with the announcement was a request for a voluntary contribution of £10. In addition to the article, we also enclosed Dr. Bhatti's questionnaire for determining what people desired in a next generation QL.

It now appears that very little came of this effort. For months nothing has been heard from the good Doctor other than his ads for software, that recently began appearing in QUANTA. The last letter from QLAW, (approximately a year ago), stated that the information from the questionnaires had been collated and the next step would be to convene an international meeting, elect officers, set priorities, establish objectives, and assign tasks. As far as I can determine, this never happened.

Lately we've received considerable feedback from readers expressing their concern as to what became of the group and were they ripped off. Was this just another case of promises that turned into vaporware? As anyone involved with the QL knows, this has happened far too frequently.

In spite of this, my feelings are still fairly positive. I said eighteen months ago that the QL had given me so much enjoyment over the years that it was certainly worth risking £10 on the chance that something might come of it, (the odds were at least as good as betting on the pools). The bright side of this whole exercise was that it got people out of a mindset that the QL was dead and that diehard survivors were just refusing to accept the fact.

## VAPORWARE - (CONT'D)

Shortly after the questionnaire was circulated, articles and letters from readers started appearing in magazines and newsletters. A wish list of what should go into a new QL was the subject of discussion at many users group meetings. It appears to me that the attitude of users changed appreciably, and people really started thinking of a future for the QL.

So even though nothing came of QLAW, the bright side is that during the same period of time, the Gold Card's increasing popularity has gone far toward enhancing and extending the life of the QL. MIRACLE SYSTEMS expected release of a Graphics Card by this January should take us even further toward the "SuperQL". There is serious talk of a QL on a card that would be installed in a PC allowing use of all the peripheral devices. Elsewhere in this issue is an article concerning plans by the Russians to build a computer that will run QDOS on a MC68030 or MC68040 chip.

So, was it vaporware, or did it foster an unexpected positive result? You be the judge.

### Tonkin's First Computer Dictionary

**Bus:** (n.) a connector you plug money into, something like a slot machine.

**Emulate:** (v.) to simulate hardware glitches with software bugs. **Emulator:** (n.) a program which emulates. See: Virtual.

**Engineer:** (v.) to build something with bugs (software) or glitches (hardware). (n.) One who engineers.

**Format:** (v.) to erase irrevocably and unintentionally. (n.) The process of such erasure.

**GOTO:** (n.) an efficient and general way of controlling a program, much despised by academics and others whose brains have been ruined by over-exposure to Pascal. See: Pascal.

**Modem:** (n., v.) a device used to connect computers (see: BBS) or the process of transmitting data between or among computers, esp. for those unable or unwilling to speak.

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## THE NEW TEAC 3.2 MB DISK DRIVES

SHELBY TOWNSHIP, MICHIGAN, USA - JOHN J. IMPELLIZZERI

After recently adding a GOLD CARD to my QL system I began to think about taking advantage of the ability to use the new EXTRA HIGH DENSITY (ED) disk drives. Armed with my back issues of IQLR, I picked up a couple of computer magazines and started looking at ads that featured the 2.88 MB drives for PC compatibles. In a MIDWEST MICRO ad they listed TEAC drives for \$89.00 US.

The articles in IQLR stated that the four digits after the FD235J were the key to making sure the drive would work with the GOLD CARD. Before ordering, I called MIDWEST MICRO's technical hotline to verify that the drive they were selling had the proper model number. The technical rep assured me that they were, so I placed an order for the new disk drive, as well as a box of ten ED diskettes. Three days later, the package arrived with my new drive and diskettes.

When I opened the package I was a little concerned, when the drive had the model number FD235J 3631. Before returning it, I decided to give it a try. Carefully making a drawing of the strap settings as I'd received it, I hooked it up. It responded as FLP2 and would format any type disk as DD and refused to recognize HD or ED disks.

The next step was to change the strap settings as described in the IQLR article (vol. 1, issue 6, pages 15 & 16). With these strap settings the drive thought that a DD disk was an HD, an HD formatted as DD and it still wouldn't recognize an ED diskette. At this point, I called MIDWEST MICRO'S tech line. Not being familiar with the QL or GOLD CARD they weren't able to help much, but then I really didn't expect them to. They gave me the telephone number for TEAC's tech line.

I called TEAC and asked them what the differences were between a 3553 and a 3631. TEAC replied that the 3631 was just a newer version of the 3653. After I explained the strap settings to make the 3653 compatible with my GOLD CARD, TEAC's rep stated that I should be able to get the newer 3631 to work with the addition of one or more straps. I tried this and almost got it working. It would recognize all three types of disks, but wouldn't give the full number of sectors on an HD or ED diskette. Calling TEAC back, with my latest results, I was told to add one or two more straps, with each having three possible positions. After some additional experimenting, I finally got the drive to work perfectly, with all three types of diskettes.

The following illustration shows the strap settings as received, and then the settings to make the FD235J 3631 fully GOLD CARD compatible. As mentioned in the previous IQLR article, you may want to change STRAP DS0. This strap determines if the drive will be flp1, or flp2. For flp1 set it to A1-A2, for flp2 set it to A1-B1.

I hope this information helps anyone considering a 3.2 MB drive for their GOLD CARD. The drive works great, has a noticeable increase in access speed, and it's great formatting a disk to 6400 sectors.

SOURCE: Midwest Micro Peripherals  
Tel: 1-800-552-8080  
TEAC FD235J 3631 3.5" 2.88 MB floppy drive  
Item # 002692 \$89.00 US plus shipping  
DYSAN 3.5" ED Diskettes Item # 002397 \$5.95 ea. US for 10+

# DILWYN JONES COMPUTING

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TELEPHONE: (0248) 354023

## QL SOFTWARE

NB PLEASE NOTE THE MEANING OF CODES IN SQUARE BRACKETS BELOW:  
[R] RAMDISK REQUIRED  
[F] AVAILABLE ON FLOPPY DISK  
[M] AVAILABLE ON MICRODRIVE  
(NB NOW NO EXTRA CHARGE FOR SUPPLYING SOFTWARE ON MICRODRIVE)  
[128K/512K] MINIMUM MEMORY REQUIRED.  
[PC] FOR IBM PC AND COMPATIBLES.  
[TK2] TOOLKIT 2 REQUIRED.

## CATALOGUE

PLEASE ASK FOR A COPY OF OUR QL SOFTWARE CATALOGUE. WE NOW SELL SO MANY ITEMS THAT WE CANNOT PROVIDE MUCH DETAIL IN THE ADVERT. THE CATALOGUE CONTAINS MORE DETAILS OF THE PROGRAMS AND A SAMPLE SCREEN DUMP FROM SOME OF THEM. CALL FOR A COPY, OR ASK FOR A COPY WITH YOUR ORDER. USER GROUPS - ASK FOR A PACK OF CATALOGUES FOR YOUR MEMBERS AND TAKE ADVANTAGE OF THE DISCOUNTS AVAILABLE FOR BUYING SEVERAL PROGRAMS AT THE SAME TIME!

## FLOPPY DISKS & LABELS

3.5" DSDD UNBRANDED DISKS	£0.40
3.5" DSHD FLOPPY DISKS	£0.70
MICRODRIVE CARTRIDGES - PLEASE PHONE BEFORE ORDERING TO ASK ABOUT PRICE AND AVAILABILITY	
100 DISK LABELS	£2.00
100 DISK LABELS ON PRINTER ROLL	£2.50
100 ADDRESS LABELS ON ROLL	£2.00
100 MICRODRIVE LABELS ON ROLL	£2.00

Please add £0.50 postage per roll of labels (max postage £2.50) if only ordering labels. Add £2.50 per order for floppy disks. No extra postage on microdrive cartridges.

## FILE TRANSFER

DISCOVER	£20.00
[F 256k] Copy files from QDOS to PC disks and vice versa. No cables required. Needs either a dual disk drive on the QL or single disk drive plus a ramdisk.	
MULTI DISCOVER	£30.00
[F 256k] Enhanced version, also transfers between QDOS and BBC micro DFS/ADFS formats, CPM and Unix CPIO formats. Needs either a dual disk drive on the QL or single disk drive plus a ramdisk.	
TEXTIDY	£15.00
Strip out control codes from Quill files and assist Discover with preparation of files for transfer to other computers.	
OPD INTERCHANGE	£15.00
File transfer utility for transferring data files and BASIC programs between microdrives on QL and ICL OPD micros. A quality program by the author of Discover.	

QL-PC FILESERVER	£24.50
[F 128k] NEW! The latest from Di-Ren! Allows transfer of files between QL and PC's connected via a simple serial link. Wiring details supplied, or ready made cables available from TF Services. File transfer is as simple as a COPY statement if required - PC USE command allows files to be copied to a device called PCDA, PCDB (PC drive numbers) or to a PC's LPT port! Use standard QL file handling commands. This program even works on an unexpanded QL and includes software for both the QL and PC ends on disk.	

## LEISURE

SOLITAIRE	£15.00
[F M 128k] A very addictive patience (Klondyke) card game. Great fun, simple to use.	
CRICKET SECRETARY	£12.00
[F M 128k] Record, display and print cricket averages etc. For cricket buffs everywhere!	
QUESTION MASTER	£10.00
[F M 128k] Questions and answers, for revision or entertainment. Make your own or try our quizzes.	
QUIZ SETS each	£5.00
FLEET TACTICAL COMMAND II QL	£49.95
[F 512k] Naval strategy game, playable on two networked QLs.	
FLEET TACTICAL COMMAND II PC	£69.95
[PC] Licensed PC version of this superb game. Networks to a QL via a simple serial port link (cable available from TF Services). Compatible with QL version, but some enhanced features such as improved graphics. Contact us for more details and PC requirements.	
COMBINED QL & PC VERSIONS	£85.00
Package deal for both QL and PC versions together. Users already with the QL version should contact Di-Ren for upgrade enquiries.	
FTC2 DATA PRINT UTILITY	£9.95
[F 128k] Print out data from FTCII described above.	
THE FUGITIVE	£9.95
[F 512k] Text adventure game.	
COCKTAILS WAITER	£10.00
[F 256k] Database of alcoholic drinks recipes, hundreds of recipes supplied, more available.	
RECIPE SETS each	£5.00

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S EDIT	£20.00
[F 384k] Simple to use menu driven editor. Can be used to edit binary or plain text files, to edit or create assembler files, and so on. Block handling, word wrap, search and replace, dynamic linked list memory handling.	
EASYPTR II	£49.00
[F 256k] Pointer environment programming aid.	
EASYPTR II BUDGET VERSION	£35.00
DISA DISASSEMBLER	£29.00
[F 256k] Interactive pointer driven disassembler.	
BASIC REPORTER	£10.00
[F M 128k] BASIC programming aid, list variables, etc.	
BUDGET QLBERATOR COMPILER	£25.00
[F M 128k] BASIC compiler suitable for use on unexpanded QL.	
QLBERATOR BASIC COMPILER	£50.00
[F 256k] More sophisticated version, excellent BASIC compiler for the QL.	
QLOAD & QREF UTILITY	£15.00
[F M 128k] QLOAD is a fast load utility for BASIC programs. QREF lists variables, procedures, etc used in BASIC programs.	
MEGA TOOLKIT on disk	£25.00
on EPROM cartridge and disk £40.00	
Comprehensive toolkit of over 200 BASIC extensions which can be used in your BASIC programs. Can also be used in published software with no royalty payment. Covers a very wide range of subjects, ask for information. Large file of BASIC demonstration routines and comprehensive manual.	

## FILE HANDLING

LOCKSMITHE	£14.95
[M 128k] Microdrive backup program, byte for byte!	
4MATTER	£23.50
[F M 384k] Complete software backup system. Can transfer many microdrive only programs to disk and make safety backups of protected microdrive software.	
TOOLCHEST	£14.95
[M F 256k] Utilities and routines to allow creation of a customised microdrive doctor program, with on-line help manual. Can display microdrive information in hex and ASCII, etc.	
FILES 2	£12.00
[F M 128k] Simple to use popup file handling utility for copying, deleting, renaming, viewing etc files. Easy to use but very powerful, everything done from menus.	
FILEMASTER	£12.00
[F M 512k R] For bulk copying of files, etc quickly via ramdisk. Also does simple disk labelling and files printout.	
THE GOPHER	£12.00
[F M 128k] File finder, searches through disk or microdrive for file containing given string.	
WINBACK	£25.00
[F 256k] Hard disk and ED disk backup utility for Miracles and compatibles. This is version 2, able to split very large files into smaller sections on the backup floppies and join them back together later.	

## DISPLAY SOFTWARE

BANTER	£25.00
[F 512k] Banner making program. Uses outline fonts for improved print quality and smooth edges to large letters. Eight fonts supplied. Easy to use, prints to 9 pin and 24 pin Epson compatible printers and to HR5 printers. Print sideways across up to 4 pages, with up to 5 lines of large text. We use it to make banners for our stand at shows, use for advertising, notices, shops, schools, exhibitions, etc.	
VISION MIXER I	£10.00
[F 512k] Screen display system, use as an eye catching screen display system with QL mode 4 or 8 screens. Version 1.5 now has built in speed control for Gold Card use. Upgrade £3.00	
VISION MIXER PLUS	£22.50
[F 384k] Enhanced, menu driven version.	
PICTUREMASTER	£15.00
[F 256k] Screen drawing utility for use with Vision Mixer, etc.	
PICTUREMASTER PLUS	£20.00
[F 384k] Enhanced version, extra features.	
UPGRADE TO "PM PLUS"	£5.00

## PRINTER DUMPS

SIDEWINDER PLUS	£24.95
[F M 512k] Screen and desktop publisher page file printer dump utility. Print in various sizes, from very small postage stamp or label size to very large banner size which can be in strips, ready to stick together later. Print sideways, mirror, invert, mode 4, mode 8, grey shade, add text. Suitable for 9 and 24 pin printers, reconfigurable printer drivers. Prints Page Designer 2 and DTP pages. Can print to LC10 and JX80 colour printers.	

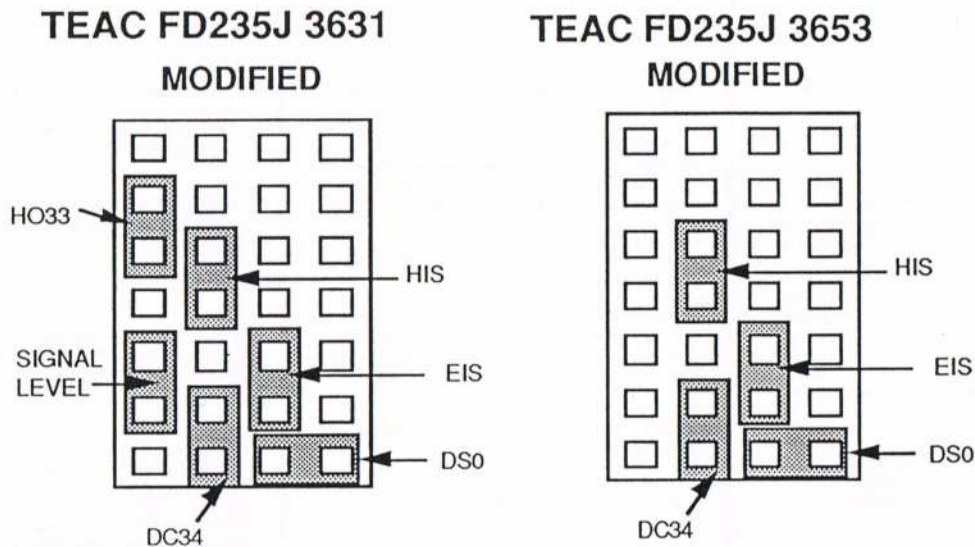
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TELEPHONE: (0248) 354023

GRAPHICS	DATABASES	OTHER QL SOFTWARE
<p><b>THE PAINTER V4.04</b> £25.00 [F 512k] 100% machine code pointer driven art and graphics program, by PROGS of Belgium. Can be mouse controlled. Patterns, fills, size changes, screen dumps, all sorts of facilities.</p> <p><b>THE CLIPART</b> £12.00 [F 128k] 3 disks packed full of screen pictures for use in desktop publishing and graphics programs. Ideal for use with The Painter or Image Processor or Page Designer, for example!</p> <p><b>QRACTAL</b> £20.00 [F 512k] Machine code fractals program, able to display Julia or Mandelbrot sets.</p> <p><b>QRACTAL SCREENS</b> £5.00 [F 128k] Sample screen pictures made with QRactal.</p> <p><b>IMAGE PROCESSOR 2</b> £15.00 [F 512k] Picture editing and creation system, image enhancement, mode conversion, touch up pictures from other sources. Can be used to tidy up screens from digitisers, for example, or just as an art and graphics program.</p> <p><b>PD2 CLIPART</b> £10.00 [F 128k] Clipart from Page Designer 2, supplied in mode 4 screens format for use with any graphics program.</p> <p><b>SCREEN SNATCHER</b> £10.00 [F M 128k] Grab screen displays from within other programs for use in your own programs!</p> <p><b>TEXT 'N' GRAPHIX</b> £20.00 [F 256k] Print text files containing screen dumps, mix text and graphics in same document.</p> <p><b>TRANS24</b> £10.00 [F M 128k] Translate 9 pin graphics output from most programs without a 24 pin printer driver to 24 pin.</p>	<p><b>ADDRESS BOOK &amp; LABEL PRINTER</b> £15.00 [F M R 384k] Store names and addresses and print them out on a variety of label sizes, print telephone lists, etc.</p> <p><b>DATA DESIGN</b> £50.00 [F 512k] A database which can be programmed from BASIC or machine code. Runs in pointer environment which is supplied with the program. Fast and versatile.</p> <p><b>FLASHBACK</b> £25.00 [F M 256k] Fast database written in machine code, not programmable.</p> <p><b>FLASHBACK SPECIAL EDITION</b> £40.00 [F 256k] Enhanced version of Flashback, with Report Generator, etc. NB Please advise if to be used on a Gold Card, since Reporter Generator requires modification.</p> <p><b>QL GENEALOGIST SECOND EDITION</b> £30.00 [F 384k] Family trees and family history program, one of our best selling programs!</p> <p><b>UPGRADE TO SECOND EDITION</b> £12.00 Please return master disk with upgrade order.</p> <p><b>BUDGET 128K GENEALOGIST</b> £12.00 [F M 128k] A cut down version for unexpanded machines, still superb value for money.</p> <p><b>DISK INDEXER</b> £12.00 [F M 128k] Make a database of the contents of your disks, so that you can search for files, list them, and generally tidy up your disks and cartridges!</p> <p><b>DBEASY</b> £15.00 [F 512k] Database front end for Archive and a suite of programs called Chaos Busters!</p> <p><b>DBPROGS</b> £15.00 [F 512k] A collection of Archive utilities and text files to help you to learn to program Archive.</p>	<p><b>QPAC1</b> £19.95 [F 512k] Pointer environment utilities, including calculator, calendar, alarm, typewriter, clock and system monitor utility. Pointer environment included. Quality QL software by Tony Tebby.</p> <p><b>QPAC2</b> £39.95 [F 512k] If you want to make full use of multitasking on your QL, this package is a must. Files maintenance menu, hotkeys, "things", channels, pick, etc. Extensive documentation and a tutorial is supplied. Another Tony Tebby package.</p> <p><b>QTOP</b> £29.50 [F 256k TK2] User front end for QDOS by Cowo Electronic of Switzerland. Desktop system, file handling, job control, program startup menus, with 5 desktop accessory programs.</p> <p><b>PRINTERMASTER</b> £20.00 [F M 128k] Printer control utility - select fonts, set margins, page length and much more. Printermaster puts you in control of your printer. Not a graphics program, not a printer driver creator, just a database of printer functions with the ability to send control codes to the printer quickly and easily without having to reach for your manual. Files for several makes of printers supplied, or create your own or modify those supplied quickly and easily. In constant use at DJC, that's what I think of it!</p> <p><b>HOME BUDGET</b> £20.00 [F M 128k] Domestic bills and accounts program.</p> <p><b>REMINDE-ME</b> £12.00 [F M 128k] Dates reminder program. Quick and easy to use.</p> <p><b>REMINDE-ME PLUS</b> £20.00 [F M 128k] Enhanced to allow more dates to be scheduled, longer event descriptions.</p> <p><b>SCREEN ECONOMISER</b> £10.00 [F M 128k] Turns off the QL display after a set number of minutes during which QL has not been used to protect the screen.</p> <p><b>SLOWGOLD</b> £5.00 [F 128k] Slowdown routine and control panel for software which runs too fast on a Gold Card or indeed on any QL system.</p> <p><b>TASKMASTER</b> £25.00 [F M 384k] Task switching utility. Enables you to conveniently switch between several programs in memory. Calculator, notepad and file handling utility included. Ideal if you want a simple to use system to let you have several programs in the computer at once and to switch between them at the press of a couple of keys. Can even save and restore the display of each program automatically.</p> <p><b>DISK LABELLER</b> £10.00 [F 256k] Prints neat labels for your floppy disks, listing the filenames from the disk in columns in small print on the label. Essential starting point to tidying up your disk collection. We have sold a great deal of copies of this useful little program - have you got yours yet?</p> <p><b>THE CAT</b> £5.00 [F M 128k] List filenames from a disk or cartridge in columns to the screen or printer. The list can be sorted if required. Useful and convenient utility. Installs as a BASIC extension then just type CAT for a list of files.</p>
<p style="text-align: center;"><b>TEXT</b></p> <p><b>QTPY2</b> £29.95 [F 512k] Typing and spelling checker, which uses pointer environment. 40,000 word English dictionary plus French and German dictionaries. Dictionary editor included to add your own words. SuperBASIC interface allows you to write your own BASIC programs which use QTPY.</p> <p><b>BIBLE TEXT DISKS, PLAIN TEXT FORMAT</b> £20.00 <b>BIBLE TEXT DISKS, QUILL FILE FORMAT</b> £20.00 [F 512k] Text of the King James Bible on disks.</p> <p><b>SPELLBOUND</b> £30.00 [F M 384k] Spelling checker which checks your typing as you type! 30,000 word dictionary, expandable.</p> <p><b>SPELLBOUND SPECIAL EDITION</b> £50.00 [F 512k] Improved version with larger 50,000 word dictionary (expandable). Check spelling as you type or check existing text files.</p> <p><b>UPGRADE TO SPECIAL EDITION</b> £30.00 Please return master disk/cartridge when upgrading.</p> <p><b>QUICK POSTERS</b> £10.00 [F M 128k] Text poster maker for use with Star LC, NL and XB printers. Current version works in pointer environment, upgrade from old version £3.00</p> <p><b>ROB ROY BARGAIN PACK</b> £10.00 [F M 128k] See review in QL World August 1991</p>	<p style="text-align: center;"><b>D. T. P.</b></p> <p><b>PAGE DESIGNER 2 PLUS</b> £40.00 [F 512k] QL Desktop publishing program, mix text and graphics, print pages, use graphics from other programs. Prints on most printers. Ask for information. Sadly, it has been badly delayed, so you should check with DJC first to see if available yet before ordering.</p> <p><b>UPGRADE TO PD2 PLUS</b> £20.00 Send proof of purchase of old Page Designer 2 with upgrade order. See note above re. delays.</p>	
	<p style="text-align: center;"><b>QL HARDWARE</b></p> <p><b>MINI PROCESS CONTROLLER</b> £59.95 Relay switched outputs, controlled via QL serial ports.</p> <p><b>SOFTWARE TOOLKIT FOR MPC</b> £9.95 [F 128k] BASIC extensions to simplify writing programs to control the MPC.</p> <p><b>NETWORK PROVER</b> £3.50 A small box which plugs between networked QLs to give a visual indication of transmission over the network.</p> <p><b>QPOWER REGULATOR</b> £24.95</p>	

THE SMALL PRINT! POSTAGE AND PACKING CHARGES: Software is sent post-free to UK addresses. To other countries, please add £1.00 per program for postage and packing (sent by airmail where possible). PRICES: All prices are shown in UK Pounds Sterling. PAYMENT: We can accept payment by cheque (in UK Pounds Sterling currency only, please) drawn on UK branch of a bank or building society, by Eurocheque with card number written on the back, Postal Order, or by these credit cards: VISA, ACCESS, MASTERCARD, EUROCARD or by CONNECT card. Please state the card type, number, expiry date, your address, and sign orders sent by post. We can also accept orders paid by credit card over the telephone. There is an answering machine for when I am unable to answer in person so that I can call you back later. Goods remain the property of DJC until paid for in full. PLEASE STATE IF YOU REQUIRE SOFTWARE ON 3.5 OR 5.25 INCH DISKS OR MICRODRIVE CARTRIDGE.

## TEAC 3.5" - 3.2 MEG DRIVES MODIFIED FOR GOLD CARD



*Editor's Note: We reprinted the illustration of the strap settings for the FD 235J 3653, (sold in Europe as FD 235J 3650), to make it more convenient to refer to.*

## FILES & THE C-PROGRAMMING LANGUAGE

EAST PROVIDENCE, RHODE ISLAND, USA - WILL HORTON

There are times when a program needs to access disk-based storage systems. Text files or data is normally stored or retrieved from a floppy or hard drive. On the QL, data files can also be transferred across the serial ports, in the same manner as a floppy drive. The subject of this article is the necessary file handling required to access the QL input and output(I/O) channels.

In C-Programming, file handling can be separated into two broad categories: Standard I/O, and System-Level I/O (also called "low-level I/O"). Standard I/O is the most often used form of handling I/O data. It's commands are very flexible and easy to use. This form of I/O conceals most file operations that are taking place within the computer.

System I/O offers fewer data handling commands, but performs them in a way very much like the operating system. This form of I/O is considered to be more efficient in its speed of operation, and in the amount of memory it uses.

This article covers both Standard and System-Level I/O, with emphasis on the use of their functions.

### 1. Standard I/O

The Standard I/O provides four ways to read and write data: Character, String, Formatted, and Record I/O. The commands associated with each are grouped as follows:

Character:    getc(fptr)  
              putc(c, fptr)



## FILES - (CONT'D)

String:	fgets(s, n, fptr) fputs(s, fptr)
Formatted:	fscanf(fptr, formats, pointers) fprintf(fptr, formats, pointers)
Record:	fread(pointer, sizeof(pointer), nitems, fptr) fwrite(pointer, sizeof(pointer), nitems, fptr)

Before these commands can be used we have to know how to open a file for I/O operations. Opening a file establishes contact between your program and the operating system as to what files are going to be accessed and how they are going to be used. This is taken care of with the `fopen()` command. The full syntax of the command is: `*fopen("filename", "type")`. When this command is invoked a communication area is setup between your file and the program in the form of a structure, which is of type "struct FILE". The structure holds information about the file that is open and will be referred to when data is transferred between the I/O and the program. The argument "filename" is the name of the file to be opened e.g. "flp1\_letters\_doc". The argument "type" is the instruction telling the operating system how a file will be opened. The following list shows the options that are permissible for the argument "type":

### OPTIONS FOR TYPE

- "r" Open for reading. The file must already exist.
- "w" Open for writing. If the file exists its contents will be overwritten. If it does not exist it will be created.
- "a" Open for append. Data will be added to the end of an already existing file, or a new file will be created if it does not exist.
- "r+" Open for reading and writing. The file must exist.
- "w+" Open for both reading and writing. If the file exists its contents are overwritten.
- "a+" Open for both reading and appending. If the file does not exist it will be created.

#### a. Character I/O

The following program illustrates the basics of opening a file and reading data. This also illustrates how Character I/O is used:

```
#include <stdio.h>
main()
{
    FILE *fptr /* pointer fptr, to FILE structure */
    int char;

    /* Open file "flp1_data" for reading only */
    fptr = fopen("flp1_data", "r");
```

## FILES - (CONT'D)

```
    /* While the character returned is not equal to "End-of-File" continue to read
    characters */
    while( (char=getc(fp)) != EOF )
        printf("%c",ch);

    fclose(fp);/* close file pointed to by fp */
}
```

This listing shows some of the basic elements required for all programs that use Standard I/O. The first thing to look at is the inclusion of the header file <stdio.h>. In addition to defining the FILE structure,stdio.h handles other identifiers and variables used by file I/O programs.

The first declaration in this program is a variable of type pointer to FILE:

```
FILE *fp;
```

The variable "fp" is a pointer to the FILE structure, and as was previously mentioned will hold information about the file that is open. Next the file itself is opened for reading with the following statement:

```
fp = fopen("flp1_data","r");
```

This tells the operating system to open a file called "flp1\_data". This statement also tells the operating system that we will be reading from the file. Note, the file "flp1\_data" should already exist. The "fopen" function returns a pointer to the FILE structure for the file we opened and is then stored in variable "fp". With the aid of the "getc()" function characters are read from the file "flp1\_data" until the "End-of-File" character is encountered. It should be understood that the EOF is an integer value of -1 that is sent by the operating system when it reaches the last item on the disk. Finally the file is closed with the "fclose(fp)" function. This tells the operating system to close the file pointed to by "fp". The complement of "getc()" is "putc()", whose full syntax would be: "putc(ch, fp)".

### b. String I/O

Reading and writing strings of characters to and from files is similar to reading and writing characters. The following listing shows how strings of data typed from the keyboard can be written to a file.

```
#include <stdio.h>
main()
{
    FILE *fp;
    char data[100];
    /* open file "flp1_data" */
    fp = fopen("flp1_data","w");

    /* read string from keyboard until null
    string is sent */
    while(strlen(gets(data)) > 0)
```

## FILES - (CONT'D)

```
{
    fputs(data,fptr); /* write string to file */
    fputs("\n",fptr); /* write newline to file */
}

fclose(fptr);          /* close file */

}
```

Notice that the header file "stdio.h" is included and the file pointer "fptr" is used as in the previous example. The string command used in this example is "fputs(data,fptr)". This function will print the string "data" to the file called "flp1\_data". This file does not have to exist since writing to it will create it. Only two arguments are required for this function: the string which is "data" and the file pointer "fptr". If this program had been setup to read data the "fgets" function would be used, with the string "data" to hold the data characters read, "maxlength" being the maximum length of the string being read, and "fptr" being the pointer to the file that was opened. The function would be setup as follows: "fgets(data, MAXLENGTH, fptr)". MAXLENGTH is an integer that represents the maximum length of string being read.

### c. Formatted I/O

Up to this point only characters and strings of characters have been considered. When we talk about formatted I/O we are talking about data of mixed formats being written to or read from a file. For instance this could be a combination of integers, floating point, and strings. The functions introduced at this point are the "fprintf()" and the "fscanf()" functions, which holds similarity to the "printf()" and "scanf()" functions respectively. The "fscanf()" function allows mixed format data to be read into an indeterminate number of variables, and the "fprintf()" function allows mixed format data of an indeterminate number to be written to a file.

The following listing illustrates how the "fscanf()" and "fprintf()" functions work to transfer mixed data formats. To make this demonstration more interesting, an existing file called "flp1\_inventory" will be read and this data will be sent to another file "ser1", the serial printer port.

```
#include <stdio.h>
main()
{
    FILE *fptr;
    FILE *fptr_io;
    char prod[20];
    int qnt;
    float price;

    fptr = fopen("flp1_inventory","r");
    fptr_io = fopen("ser1","w");

    while(fscanf(fptr"%s","%d","%f",prod, &qnt, &price) != EOF)
        fprintf(fptr_io, "%s", "%d", "%f\n", prod, &qnt, &price);
}
```

## FILES - (CONT'D)

```
        fclose(fptr);
        fclose(fptr_io);
    }
```

The standard header file and declaration is made as with the other examples. This time the file "flp1\_inventory" is opened to have data read from it, and another file called "ser1" is opened to have data written to it. Notice this treats the serial port as if it were a file. Data read from the file "flp1\_inventory" is setup as a string, an integer, and a floating point. Each time the file is read these three items are placed into their respective variables: product, qnt, and price. Next each item is sent to the printer, as it was read from the file. This continues until an EOF is received from the file where the process will then end.

### d. Record I/O

Record I/O provides a means of writing larger data types to a file that cannot be done through the previously mentioned I/O's. For example arrays and structures can be written at once to a file. What makes Record I/O powerful is that it can write more than just a single character or string of characters to a file. Also the data is sent in a binary format which makes more efficient use of memory due to the way in which integer and floating point numbers are stored.

The following listing demonstrates how Record I/O can be used to write an array of integers to a file:

```
#include <stdio.h>
main()
{
    FILE *fptr;
    int num_array[9] = {1,2,3,4,5,6,7,8,9};

    fptr = fopen("flp1_data","w");

    fwrite(num_array, sizeof(num_array), 1, fptr);

    fclose(fptr);
}
```

The file "flp1\_data" is opened to have data written to it, and the data written will be an array of nine items. It is the "fwrite()" function that takes care of sending the array to the file. In order to indicate the size of the data that is to be sent to the file, the second argument "sizeof(num\_array)", tells the function that an array of the size as declared in the start of the program is to be sent. The number of these items to be sent is "1" as indicated and it will be sent to the file pointed to by "fptr".

The complement command to "fwrite()" is "fread()". This performs a read with the same parameters as "fwrite()".

Before leaving Standard I/O one additional topic should be covered, and that is "file pointers". Throughout this article file pointers have been implicitly used. Each time data

## FILES - (CONT'D)

was written to or read from a file the file pointer was automatically updated to the next location in the file. Now, in order to reposition the file pointer to another place in the file, the "fseek()" function is used. The full syntax of this function is as follows: fseek(fp, offset, Mode). The "fp" is the pointer to the FILE structure, next is the offset which indicates how many bytes from a particular location to start reading, and the final argument is the mode, which indicates where the offset will be started from.

Mode	Offset is started from:
0	The beginning of the file.
1	The current position of the file.
2	The end of the file.

To illustrate how this new function can be used, the listing below shows a program that is used to rename a double density floppy. By using the "fseek()" function we can move to the location of the device name, read and then move back to that location again and write a new name.

```
#include <stdio.h>
main()
{
    FILE *fp;
    char name[64],new_name[64];

    fp = fopen("fd1_2d", "r+");

    /* position file pointer one byte past the start of the file and read the old name */
    fseek(fp, 1, 0);
    fgets(name, 64, fp);
    printf("Old Name = %s\n", name);
    /* enter new name */
    printf("Enter New Name");
    scanf("%s", new_name);
    /* modify the new name */
    mod_name(name, new_name);

    /* position file pointer one byte past the start of the file and write the new name */
    fseek(fp, 1, 0);
    fputs(name, fp);

    fclose(fp);
}
mod_name(name, new_name)
char *name, *new_name;
{
    int len, n;

    /* Ensure that the new name is only ten bytes long. */
    len = strlen(new_name);
    if ( len > 10 )
```

## FILES - (CONT'D)

```
        len = 10;

/* The original header information is preserved with the old
name removed. */
        for(n=4;n<14;n++)
            name[n] = 32;

/* The new name is now inserted into the old header information. */
        for(n=0;n<len;n++)
            name[4+n] = new_name[n];

    }
```

When reading the name of the device the entire header is read into the character string "name". Once this has been done the old name is removed by the "mod\_name" function, which removes the old name from the header information and adds the new name in its place. This information is then read back to the device. The "fseek" function is what provides us with the positioning of the file pointer so we can locate the correct position to replace the data.

### 2. System-Level I/O

System-Level I/O (or low level I/O) follows the ways used by the operating system to read from and write to files. In System-Level I/O data cannot be written as a single character, or string, but as a buffer full of bytes. In Standard I/O the buffer was setup for the programmer, in the case of System-Level I/O the programmer must setup the buffer, place data into the buffer and remove the data from the buffer when finished. The buffer becomes part of the program where this was not the case with Standard I/O. The major advantages to System-Level I/O are: 1) more efficient operation since the amount of code used by the C library routines is less, and 2) faster operation since there are fewer layers of routines to go through.

System-Level I/O provides only two functions to handle file transfer:

```
read(d, buffer, BUFSIZE)
```

```
write(d, buffer, BUFSIZE)
```

Opening a file in System-Level I/O is different than Standard I/O. The command to open a file is: "open("filename", flags, mode)". A file is opened to establish communication with the operating system for the file we want to open. The first argument is the file to be opened, the second argument indicates how we want the file to be opened, read or write, or if we want the file opened for text or binary, the third argument allows us to change the mode of the file we are working with.

#### OPTIONS FOR FLAGS

O_RDONLY	Open for reading only
O_WRONLY	Open for writing only
O_RDWR	Open for reading and writing
O_NDELAY	Do not block on open

## FILES - (CONT'D)

O_APPEND	Append on each write
O_SYNC	Perform synchronous writes on file
O_CREAT	Create file if it does not exist
O_TRUNC	Truncate size to 0
O_EXCL	Error if create and file exists

For the "mode" option we will only need to concern ourselves with two, cases since the others tend to be geared to UNIX system applications.

### OPTIONS FOR MODE

0400	read
0200	write

At this point an example will be given to show how System-Level I/O is implemented.

```
#include <fcntl.h>
main()
{
    char buffer[512];
    int infile;
    int n, bytes;

    infile = open("flp1_data", O_RDONLY, 0400);

    while( (bytes=read(infile, buffer, 512)) > 0)
        for(n=0;n<bytes;n++)
            putchar(buffer[n]);

    close(infile);
}
```

The first item to notice in the above listing is that a new header file is being used, <fcntl.h>. This is needed for the "flags" argument used in the "open" command. The first thing declared is a character buffer called "buffer". This is the buffer where data read from "flp1\_data" is placed. The size of the buffer was selected to be 512 bytes but for certain applications a larger buffer might be needed, so multiples of 512K should be used. Next the file "flp1\_data" is opened with the "open" command and since the flag has been set to "O\_RDONLY" this will be a read only file. The function "open" returns a file handle "infile", which is not a pointer but a reference number to identify the file.

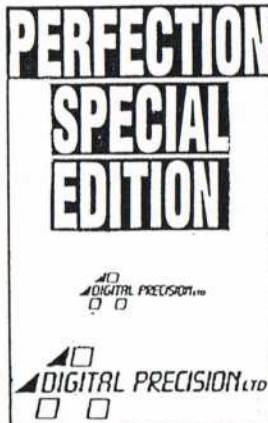
Now that the file is opened it is time to read the contents of the file. The "read" function takes care of reading the data into the buffer, the first argument is the file handle "infile", the second argument is the address of the buffer, and the third argument is the maximum number of bytes to read, this number should never be larger than the buffer size. Each time a read is made the number of bytes is returned in the "bytes" variable. This many characters will then be printed to the screen, and this will continue until all bytes have been read from the file.

## POWER

PERFECTION SPECIAL EDITION has 253 (two hundred and fifty three) direct/menu commands (not counting options in sub-menus), plus 32 special characters (like Bold on) that can be inserted 'directly' plus intelligent (and now excellently documented) macros. Comparisons with other word processors on the subject of power are hence quite unnecessary.

## EASE OF USE

Independent reports, customer feedback and published reviews (of its less able but still excellent predecessor, PERFECTION) leave one in no doubt as to which word processor is friendliest – PERFECTION SPECIAL EDITION, with its intuitive, silky handling. Uniquely, it has two operating modes, with both menus (visible or invisible – they even look like Quill's) and direct commands (for when you familiarise yourself with the system). Uniquely, both modes are 're-entrant' (so you can use any menu option or direct command while you are in the middle of performing another option or command – block handling, etc, becomes a dream). Uniquely, PERFECTION SE has fully automatic memory management, grabbing and releasing RAM instantly as your document grows or shrinks – programs without this don't take full advantage of the multi-tasking abilities of the QL! Uniquely, PERFECTION SE leaves you in the driving seat, not juggling things around 'underfoot' while you are typing. Uniquely, PERFECTION SE allows up to nine different documents to be handled simultaneously from one copy of the program – each with totally independent margin, tab, justification, control panel, etc, settings. Uniquely, each document can itself have up to six environment settings, each settable or recallable instantly with a single keypress combination. Each document can have any number (up to 500,000 on GOLD CARD) of candidate blocks! Each document can have two independent windows (of any depth, of any (but same) width across) 'on to' it, even with overlapping text – that allows you to edit in one place while viewing another, to compare 'before editing' with 'after editing' (you can arrange to have one window remain 'frozen' in time), etc. Uniquely, we realise how much faster it is to type in something like CTRL/SHIFT/F5 than (say) F3 D U – both involve three keys, but as the former doesn't require the keys to be pressed in just one specific order, or to be released in any order at all (together will do), it is in practice twice as fast as the latter, where no key may be pressed until its predecessor is released. Also, sequences like CTRL/T (top) and then CTRL/G (go to next occurrence of string in set direction) can be accomplished by holding down CTRL and then tapping T and G. Uniquely, by providing eight user-definable strips, PERFECTION SE allows you to cope with printers of the future, not just the printers that now exist – you can attach the strips to any printer features. Uniquely, PERFECTION SE's status lines give full information on all relevant global settings. And the manual has an index. Also, it has all the important bits at the front.



system, you can vary (in 5% steps) the ratio of micro-spaces added between words to that added between characters (the latter in proportion to their *individual* widths). Ratios around 65%-35% – not the 100%-0% forced upon you by some other word processors – seem to give the most pleasing results. Uniquely, you are not limited to mere rectangular columns plus headers/footers – that's all the rest can do – you can output in any sequence to any number of frames (text flowing from one to the next), each of any shape – irregular polygons of up to 66 sides, circles, multi-column or part-column boxes (hundreds of types of borders, thousands of textures), doughnuts, wrap-around shapes, even re-entrant ones ('join-the-dots' type borders, even with intersecting edges) – all with micro-justification and proportional spacing! Look at the example on this page. Of course, if super-lancy effects (like wraparound windows and mixing different font widths on the same line while maintaining right justification) are not of the essence, PERFECTION SE's direct printer output is excellent with all your printer's capabilities supported.

## THE FASTEST

For benchmarking, we've used a public domain version of the first book of The King James Bible, all fifty chapters of the book of Genesis. This came to **one hundred and forty pages**, well over **forty two thousand words** excluding headers and footers, well over **two hundred and twelve thousand characters** excluding justification ones, **fifty full chapters** and **one thousand five hundred and thirty three indexed verses!** We didn't use a smaller file (as used to benchmark other programs) as PERFECTION SE's timings for most operations then become impossible to stopwatch (too fast!). The hardware used for all timings was GOLD CARD: speeds would be **further improved by over three times** using the ST/QL Q30. Of course, LIGHTNING SE was used. File operations were to ramdisk: normal slave blocks would give identical times. All settings on **everything** were for maximum speed, except where indicated to the contrary – we do not force full speed upon you in operations like scrolling and global Search & Replace. PERFECTION SE's speed for these is switchable (at run-time and when configuring), as too great a speed may cause overshoot (with scrolling) or fatal alteration (if there is human error inputting the target or replace strings). Here are the benchmarks for this huge document:

Load 140 pages: 0.6 seconds (yes 0.6, not 6!) ☆ Import 140 pages: 0.6 seconds (yes 0.6, not 6!) ☆ Save 140 pages: 0.5 seconds (yes 0.5, not 5!) ☆ Export 140 pages: 0.5 seconds (yes 0.5, not 5!) ☆ Case-sensitive search from top for word at bottom: 0.4 seconds (yes 0.4, not 4!) ☆ The same, but case-insensitive: 0.5 seconds (yes 0.5, not 5!) ☆ Case-sensitive search backwards from bottom for word at top: 0.4 seconds (yes 0.4, not 4!) ☆ The same, but case-insensitive: 0.5 seconds (yes 0.5, not 5!) ☆ Automatic Search & Replace, in Fast (No Query) mode, of last 600 occurrences: 7.4 seconds (same length replace string); 7.7 seconds (shorter replace string); 10.5 seconds (longer replace string – longer time as we deliberately chose a high *density* of replaces to handicap PERFECTION SE into auto-managing memory – without causing any heap fragmentation, but still with only a 0.005 second overhead per replace!) ☆ Automatic Search & Replace in Slow ('Querying') mode: arbitrarily slow, typically 30 times slower – because we deliberately allow for human response time (in case you want to abort) before proceeding from one replace to the next. ☆ Scrolling 100 lines of text, up or down, by full-width screen page: 1.5 seconds ☆ Scrolling 100 lines of text on full-width screen, line by line, in slow (full) mode: 5.7 seconds (down)/5.8 seconds (up) ☆ As above, but in medium speed mode: 4 seconds ☆ The same, but in fast mode and default settings: 13.5 seconds to scroll through the whole massive document, averaging 0.23 seconds per 100 pages (!) – and this could be made up to ten times faster by reconfiguring PERFECTION SE ☆ Reformating paragraphs, changing margins, justification, etc, of existing text: c5 times faster than predecessor ☆ Inserting (or undoing) emphasised, underlined, italics, superscript, subscript, 8 strips, 6 environment settings: Instant (i.e. immeasurable) ☆ Navigation to line or page or to top or bottom or to 8 markers or to highlights/blocks: Instant ☆ Setting new margins, justification, etc: Instant ☆ Deleting block of 100 pages: 0.3 (yes, 0.3 not 3!) seconds ☆ Copying/moving block of 100 pages (not just 10!), downwards or upwards: 3.4 seconds (yes, including all the time for automatic memory management and anti-fragmentation – other programs are light-years behind) ☆ Spellcheck as you type: Ten times faster than anyone can possibly type ☆ Spellcheck all 140 pages in the document using the 350,000 word Mega Dictionary: 3.9 seconds (20 'errors' – like 'pluck!') ☆ And using our tiny dictionary (well, tiny by our standards – large by comparison with most others): 5.1 seconds (566 'errors') ☆ Time taken to create user dictionary from the results of the second spellcheck (566 errors): 0.8 seconds to extract all 'errors' from document and clean document; 1.9 seconds to create a full user dictionary therefrom and also a sorted, duplicate-free wordlist file (for browsing) ☆ Spellcheck file (ASCII or native): Even faster. ☆ Print first 10 pages to file: 3.5 seconds. ☆ Change every occurrence in 140 pages of God to god in bold underlined italics, strip 8 – 9.5 seconds! ☆ Virtually everything else: instant.

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## FILES - (CONT'D)

To end, the "close()" function is used to close the file. This releases the communications area so the file can be used by other files, and operations.

### Summary

The subject of Files is complex but the basics have been covered and supply a good start in understanding how they are used. Keep in mind that the file functions parallel other functions, for instance: "fgets" with "gets", "fscanf" with "scanf", and "fprintf" with "printf". So file functions behave as the other functions in C. Remember that there are two main divisions in file handling functions: Standard I/O and System-Level I/O. Standard I/O provides a more versatile means of handling files but System-Level I/O is generally more efficient. As a final point, files do not have to be considered as only pertaining to floppies, they can be other devices as well, e.g. serial ports.

## DISK MATE - A Review

*NASA COMPUTING*

ALEXANDRIA, VIRGINIA, USA - TIM SWENSON

DISK Mate is a menu driven disk utility for files and disks, by Pal Monstad of NASA Computing, Norway. The program requires at least 512K and ToolKit II.

The first thing I have to say about the program is that the requirements are not totally correct. I have both disk and EPROM versions of TK II and the program did not work with either of them even though the EPROM TK II is the latest version (2.13).

The program requires the command FLP\_TRACK. If your version of TK II does not have it, this program will not work. I have found that the Trump Card and Gold Card both include the FLP\_TRACK command. To do this review, I had to use a friend's QL (with Trump Card).

The menus in DISK MATE are the pull-down type, with at least one menu displayed at any one time. You choose menu options by using the up and down arrow keys. Other menus are selected by using the left and right arrow keys. The menus appear over a white background where the files on the disk are displayed. You can get a fair idea of what DISK MATE can do without reading the manual just by moving through the menus. You WILL need to read the manual for a few items, but most are obvious.

As with most disk utilities, DISK MATE copies, deletes, and renames files. The copy feature has a few neat wrinkles. First there is Fast Copy, this option copies a file to RAM first and then back to another disk. It's much faster than the standard method of copying small parts of the files, with lots of switching between drives. The second is Sector Copy. This copies an entire disk, sector by sector, and WILL duplicate "copy-protected" disks plus disks in non-QDOS formats (MS-DOS, ATARI, etc). This feature can be very handy. DISK MATE displays information about the files, the disk, and the system. The level of detail provided on the files, disk, and system is ample for even the more advanced user.

For the more technical types, Disk Mate will let you change the disk label and the random number on each disk. You can even change the data space in executable files, (DO THIS ONLY IF YOU KNOW WHAT YOUR DOING). DISK MATE allows sorting a directory by file name, file type, etc. and writing the sorted directory back to disk. This can really help in keeping your disks organized.

## DISK MATE - (CONT'D)

Disk Mate also has a neat feature called CONVERT, that will convert all references of, say MDV1\_, to FLP1\_ in a file. This way programs hard-coded to run on microdrive will run on a floppy. CONVERT will also replace any string in a file.

Using DISK MATE is not as easy to use as ICE, but about the same as using QRAM, the only other QDOS front-ends that I have used. Most features of DISK MATE are aimed at the beginning user, but there are a number of key features for the advanced user. When I first got the program, I was not impressed. I figured it was just another front-end to QDOS, which as a more advanced user, I prefer not to use. Only after trying out the program and reading the manual did I notice the more powerful features of the program.

To me the key feature is the ability to copy disks from multiple formats. I have an MS-DOS program that is copy-protected so that I can't make a backup of the original disk. If this disk ever gets eaten, I'm in trouble because the program is old and hard to find. I'll use DISK MATE to finally make a backup of the original disk. Something I have not been able to do in MS-DOS with CopyIIpc.

As a front-end, I'd rate Disk Mate as fair. It's not fancy but will do the job. But, for some of its more advanced features, Disk Mate may be a MUST-HAVE program. If I really need to change the data space on an executable program, then Disk Mate is very handy to have around. The only serious drawback to DISK MATE is the problem concerning FLP\_TRACK. With my current system, including TK II, I can not use Disk Mate. Look before you leap. *ED. NOTE: DISK MATE is available from NASA Computing - Nerheim, - N-5580 Olen - Norway. Please note their advert elsewhere in this issue.*

**Worm:** (n. ) acronym for Write Once, Read Mangled. Used to describe a normally functioning computer disk of the latest design.

## THIS AND THAT

TIVERTON, RHODE ISLAND, USA - DICK TAYLOR

### IFE LIBRARY

The Intergroup Freeware Exchange (IFE) library has at last count, grown to over 145 disks of Public Domain software. This library, (available on 3 1/2" disks only), maintained by Franz Herrmann of Germany is a virtual treasure trove of programs, (many of which are commercial grade) from all over the world. Without a doubt this library is the single largest repository of QL programs in the world and continues to grow daily.

If your user group has not joined this organization, you are missing out on a tremendous opportunity and hundreds of hours of enjoyment. If interested contact:

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Franz Herrmann  
Talstrasse 21  
W-5460 Ockenfels, Germany

## THIS AND THAT - (CONT'D)

### **STAR TREK CHRONOLOGY**

The SeaCoast QL User's Group recently added two disks of Public Domain software to the IFE Library. One of these disks contains three Star Trek related items as well as "Tonkin's First Computer Dictionary", from which excerpts have appeared in IQLR.

All of the items on this disk were downloaded from a bulletin Board as compressed MSDOS files and converted to run on the QL.

The largest of these files, "The Star Trek Chronology (Version 4)", compiled and copyrighted by James Dixon, is approximately 400K in size and establishes an extensive and detailed timeline for all of the events that occurred in the original series, the current series, the movies, books, animated cartoons, The Writer's Guide, and the Technical Manual as well as many other documents. This chronology is unchanged from the original with the exception of splitting the files into six parts so that they can be loaded into an unexpanded QL. Each part is approximately 17 to 22 pages in length and is provided both in ASCII format as well as a Quill\_DOC. Page breaks and header's have been adjusted accordingly.

Although I downloaded these files for one of Bob Dyl's sons, (a hardcore "Trekkie"), I couldn't help but be drawn into the Chronology as it is so well researched and written. If you watched the series or saw the movies, I would highly recommend you obtain a copy of this disk.

### **C68 COMPILER**

Dave Walker, the C68 Coordinator, has recently consented to allow me to act as the distribution point for the C68 Compiler in North America. I have the following 13 disks associated with the C68 Compiler:

C68 Compiler, Version 3.03 (Runtime) -	3 Disks
C68 Compiler, Version 3.03 (Source Code) -	4 Disks

*The above disks constitute the C68 Compiler Release Set*

Tutorial, Version 2.01	1 Disk
C Debugging Tools (LIBDEBUG)	1 Disk
C Programming Tools I (CPROTO)	1 Disk
CPORT Support Libraries, Ver. 1.02 (C68)	1 Disk
Tony Tebby's LIBQPTR, Release .05	1 Disk
CFIX	1 Disk

*The CFIX disk is a co-operative effort between Dave Walker and Digital Precision that improves or corrects 80 functions of CPORT.*

This is an excellent implementation of C, very transportable between systems and a tribute to the tremendous amount of time and effort that Dave has put into this project.

I'll be happy to make copies of any of these disks, provided you supply the formatted disks and enough postage to cover the return. If you feel that your envelope might not be useable

## THIS AND THAT - (CONT'D)

for the return, then please add enough for a padded envelope. I only have 3 1/2" drives, but believe I can arrange to have 5 1/4" copies made. This may necessitate a slight delay.

The C68 release set is frequently updated, so please don't ask for disks you won't use. It doesn't make sense for me to put a lot of unnecessary wear and tear on my disk drives making updated copies of the source code, if you never use or modify the source code. The latest version of these disks can always be provided if you later find a need for them.

If you are just starting out with C programming, (or just want to see if you might be interested in it), I recommend the three runtime disks and the tutorial. The tutorial is excellent and includes many sample programs and exercises.

In order to take advantage of the CPORT Support Libraries and the CFIX disks, you need Digital Precisions CPORT program (*see DP's advert elsewhere in this issue*).

Tony Tebby's LIBQPTR disk is helpful if you plan to write C programs that utilize the QPTR environment.

You can contact me through IQLR or as follows:

Dick Taylor  
309 Holly Circle  
Tiverton, RI 02878

## *QL LEISURE REVIEW ISSUE 2*

After a long lull, QLLR 2 is finally on the street. This publication by C.G.H. Services started life as the "QL Adventurers' Forum" and provided in-depth reviews, hints and tips for QL games, with special emphasis on adventure games. Due to the large amount of non game material that was creeping into QLAF, Richard Alexander established a second publication called the "QL Technical Review", (It is from this publication that we have been reprinting the TOOLKIT II Tutorial). Both of these publications provide a wealth of information and are written in a down-to-earth style (minimum of techno-babble) that I find very appealing.

Richard has turned the editorial control of both of these publications over to Bruce Nicholls, and judging from QLLR 2, these publications will continue to grace my library. Included in this issue were reviews on Sam the Little Spaceman, Quick Mandelbrot, Chinese Chess, Squidgy Round the World, Pudge, 003.5 Superspy and Question Master. In addition were articles on Epic Origins, The Core War, Game Ideas, Bringing Up Beano and Public Domain News. Of special note were two articles by Rich Meller on MINERVA Compatibility, including how to bodge many programs as well as the most likely cause of the incompatibility.

According to Rich, the two most common causes of incompatibility are number one, those programs compiled with Qliberator, in which case you can run Qlibodge on them (supplied with the MINERVA ROM), and secondly, it appears that much of the problem software insists on setting the value of A7 (the stack pointer) to a specific position in memory. The solution for this is to load the problem software into a monitor such as **Qmon** without

## THIS AND THAT - (CONT'D)

calling it, then alter all occurrences of MOVE.L #\$xxxx,A7 to NOP (do nothing) and resaving the machine code to a backup medium.

At £1.75, both of these publications are an excellent value and highly recommended.

### **CORRECTION**

In the last issue of IQLR, a small error crept into Howard Clase's article on a DIY Printer Driver. Although the listings were printed as received, the pound sign did not reproduce correctly in the first line of text in the last paragraph on page 101. This line should have read:

"As an example, in line 145 I have included the seven character code for printing the "£" sign correctly to my Epson printer."

We sincerely apologize for any embarrassment this may have caused Mr. Clase.

## **THE RUSSIANS ARE COMING!!**

DOWNLOADED FROM THE MAUS.COMP.QL BY TIM SWENSON

Andrew Lavrov and Anatoly Tishin, both from Russia, are planning to design and manufacture a very powerful Sinclair QL clone as soon as possible. The machine they have in mind will not only be able to clone the QL, but should be capable of cloning any other MC680xx-based computer as well (Atari ST, Commodore Amiga, Apple MacIntosh, etc.) without any change of hardware! The main features of the machine are still indefinite and open to change, but currently they are planned as follows:

- Working name: "Concept";
- Original Personal System, not just an upgrade of an existing machine;
- Motorola MC68040 processor;
- Clock frequency around 40 MHz;
- Relocatable ROM and RAM areas via programmable addressing for compatibility with existing MC680xx- based computer systems;
- Flexibly programmable peripheral devices (such as keyboard, video, sound, disk drives), based on single-chip microcomputers;
- Programmable addressing of peripheral devices;
- Support of some popular standard operating systems such as UNIX and OS/9;
- Bootstrap process allows reconfiguration of system and continued working in a number of emulation modes (QL, ST, Amiga, Mac, ...), the actual number of computers that will be emulated depends on the popularity of each different system and on the interest of experts joining the project; the first computer to be emulated will be the Sinclair QL;
- No violation of copyrights on existing system ROM software;
- To be built in Russia with imported chips;

## THE RUSSIANS - (CONT'D)

- Estimated market price: US \$1500.

The MC68040 is real 32-bit processor (with 32-bit databus) and has a fast internal caching memory. It is to be expected that the above system runs at least 6 times as fast as a QL with Gold Card (>25 times normal QL speed). This implies - for example - that QL Conqueror would be as fast as a 16 MHz 80386 machine and QL Spectrum emulators would run at least twice the real Spectrum speed!

The persons currently involved in the project are:

1. System Software Programming: Andrew Lavrov, Tver, Russia
2. Main Hardware Expertise: Anatoly Tishin, Dubna, Russia
3. Software & Group Coordination: Carlo Delhez, Steenberg, Netherlands

However, the project is quite complicated, so we are willing to cooperate with as many users and experts of the various MC680xx systems as possible in order to have considerable results. Also companies who wish to cooperate in or contribute to the development of this innovative and powerful new system are requested to reply

An association (called "Concept Association") will be organized and it will be open for all the users, experts and companies who are interested in this project and are willing to support and take part in the Concept design.

If the above interests you, please do the following:

**Computer Experts:** If you're willing to cooperate in or contribute to the project, send a letter and describe your personal skills (hardware knowledge, software experience, specific 680xx system expertise, etc.), and estimate how much time you can spend for the project (as volunteer). If you already have ideas that may be useful, mention them! We'll reply as soon as a sufficiently large group of experts in the various fields has been gathered and when their suggestions have been evaluated by Andrew and Anatoly (the brains of the project!).

**Computer Users:** Please express your interest in this project by sending a personal letter to the address below. We really need to know how many people are potentially interested in this system! If you add a number of International Reply Coupons, we'll keep you posted about the developments as well.

**Companies:** Any interest from companies is heartily welcomed. Sponsoring and support for future production and distribution will be essential.

**All:** What do you think about the feasibility of this system? We think that it should be able to compete with existing MC680xx computer systems thanks to its flexible design. What's your opinion?

Project Correspondence Address: Carlo Delhez  
Emmastraat 3,  
NL-4651 BV Steenberg, Netherlands

## THE RUSSIANS - (CONT'D)

You are kindly requested to forward this message to as many QL/ST/Amiga/MAC Users, User Groups, Magazines and BBSs as possible. The more people we reach with this info, the more chance there is that this innovative computer system will actually be realised!

We encourage the readers of BBSs to discuss the feasibility of this system with each other on the BBS, but we would like to know about it as well. So please send resulting ideas or conclusions by 'normal' (non-electronic) mail to the address above.

*Editors note: This article is provided for information only. The fact that it appears in these pages does not constitute an endorsement. Both Lavrov and Tishin are unknown to us although Carlo Delhez is the author of ZX-81 and Spectrum emulators for the QL. At the risk of being a wet blanket, I believe that the export of 68030 and 68040 technology to Russia is still prohibited (maybe one of our readers can shed some light on this). My other major concern is that the Russians have a terrible reputation for the poor quality and lack of control in the manufacture of their electronic circuit cards.*

## WHAT IS A RAM DISK ???

BANGOR, GWYNEDD, GREAT BRITAIN - DILWYN JONES

I'm often asked how to make a backup copy of a program when the user only has one disk drive. The simplest answer is to make a copy on a microdrive cartridge, then copy it back to the disk drive, onto another diskette. But what happens when the files are too large to fit on a cartridge??

The next approach is to use a ramdisk. On several occasions I've been surprised by the reply "what's a ramdisk"?? So, I hope to explain here just what a ramdisk is and how to use it.

A ramdisk is a part of the QL's memory which has been set up to look to programs as though it was a floppy disk drive, albeit a very fast one. Try thinking of it as a floppy disk inside the computer's memory, with one important difference - IT IS NOT PERMANENT. Any information stored in it will be lost as soon as the QL is turned off or reset.

You can save programs to a ramdisk, load from it, copy to and from it, and generally do those things that you do with a floppy disk or microdrive cartridge. The SuperBASIC commands SAVE, LOAD, DELETE, OPEN, COPY, and others all work with ramdisks. Even FORMAT works, but there is a different use for that command.

The ramdisk has a device name. In the same way that we save files to FLP1\_ for floppy disks, or to MDV1\_ for microdrive cartridges, we use RAM1\_, RAM2\_ and so on for ramdisks. So, when we save a program to floppy disk with SAVE FLP1\_name, we can also save to ramdisk with the command SAVE RAM1\_name.

Now that we've established that (to programs) it looks and behaves like any other QL storage device, what use is it ??

You can copy commonly used files into a ramdisk at the start of a session on the QL, so you don't have to keep swapping disks to use them. The snag is that it takes up some of



## RAM DISK - (CONT'D)

your valuable free memory, putting lots of large files in the ramdisk tends to use a lot of memory, leaving less than usual for your other programs.

You can save something temporarily to a ramdisk while you load another program for some reason (e.g. to check or compare something), then quickly load it back again. This is often

faster than temporarily saving something to disk or cartridge, and saves the hassle of looking for a blank disk or cartridge.

QUILL can be configured to use a ramdisk for some of its "system" files. You can make QUILL look for its help files, printer\_dat printer driver file, and even have its def\_tmp file on ramdisk to make it work quicker if you're multitasking QUILL and have prevented it grabbing all the computer's memory (e.g. when using TASKMASTER, or the POINTER ENVIRONMENT SYSTEM).

ARCHIVE can manipulate a database file in a ramdisk. Before starting up the program, copy the database file to ramdisk then make ARCHIVE use the copy in ramdisk. Not only will this speed up ARCHIVE, it also means that if the computer crashes, it won't corrupt the database file on the disk or cartridge, only the copy in memory will be lost. You must remember to copy the file back to disk afterwards to bring the disk copy up to date.

Copying files to and from ramdisk works very quickly. If you only have one disk drive, or you wish to make multiple copies (e.g. to make two or three backups of a very important file), it is worthwhile copying the file/files to ramdisk first, then copying them back onto the backup disks. If you have TOOLKIT II on your system (most disk interfaces have at least part of TOOLKIT II built into them), the WCOPY command is an excellent and easy method of copying files in bulk.

Use the command WCOPY FLP1\_ to RAM1\_ to copy files to the ramdisk (press Y for YES or A for ALL when prompted), when copying is complete change disks and use the WCOPY RAM1\_ to FLP1\_ to copy the files back to a floppy disk (again press Y for YES and N for NO, A for ALL files or Q to QUIT).

If you don't have TOOLKIT II in one of its various forms (as part of your disk interface or on an eprom), here is a short listing for a program to copy all files from a disk to ramdisk, it waits for you to change disks and then copies all the files onto the new disk. It's designed for use on a single disk system.

You should delete the files in the ramdisk afterwards (use the DELETE command, or WDEL RAM1\_ for bulk deleting, if that command is present on your system). You can modify this program to do the deleting for you by adding the command shown after the REMark statement in line 290. That is, type in line 290 but without the word REMark. This program will only make one backup copy at a time as it now stands.

```
100 REMark ramdisk copier for single drive systems
110 CLS: OPEN_NEW #3,ram1_temp_file
120 DIR #3,flp1_: CLOSE #3
130 OPEN_IN #3,ram1_temp_file : INPUT #3,tf = INPUT #3,tf
140 REPEAT copy_files
150 IF EOF(#3): EXIT copy_files
160 INPUT #3,filename$
```

## RAM DISK - (CONT'D)

```
170 PRINT "Copying";filename$
180 COPY "flp1_"&filename$ TO "ram1_"&filename$
190 END REPEAT copy_files
200 CLOSE #3: Print^"Swap disks and press a key."
210 PAUSE
220 OPEN_IN #3,ram1_temp_file = input#3 ktd ktd
230 REPEAT copy_files
240 IF EOF(#3): EXIT copy_files
250 INPUT #3,filename$
260 PRINT "Copying";filename$
270 COPY "ram1_"&filename$ TO "flp1_"&filename$
280 REMARK if only making one copy, add the following line
290 REMARK DELETE "ram1_"&filename$
300 END REPEAT copy_files
310 CLOSE #3: DELETE ram1_temp_file
320 PRINT"Copying complete, but wait until drive stops."
```

Finally, FORMAT. There are two types of ramdisk. The first is called DYNAMIC, because its capacity can expand and change as required, which is very flexible, but prone to minor problems.

The second is called STATIC, because it has fixed capacity. Its size, in units of 512 bytes, is defined with a FORMAT command, followed by a drive name and a number (e.g. FORMAT RAM1\_2 gives a ramdisk of 2 units or 2 \* 512 bytes or 1024 bytes, which is 1 kilobyte). Using a value of 0 (FORMAT RAM1\_0) removes a ramdisk and is a quick way of deleting everything in it. Rather DISASTROUS if used by mistake, so be careful you don't accidentally wipe out important files.

## CONGRATULATIONS !!!



*On the 7th of October 1992, Dilwyn and Janet Jones welcomed their first born into the world. The young man's name is Gareth Sion Jones. He entered the QL world at 15:35 local time at St. David's Hospital, Bangor, Wales. He weighted in at 7 pounds 14 ounces, and is 20 inches tall (50 centimeters.). Mother and baby are doing fine. Dilwyn has assured us that baby Gareth will not be answering the telephone at DILWYN JONES COMPUTING for at least the next few months, but you may hear him in the background.*

## Tonkin's First Computer Dictionary

**Diagnostic:** (n. ) a test foolishly but often believed to determine the reason for a particular failure. Competent professionals prefer the I Ching or phrenology.

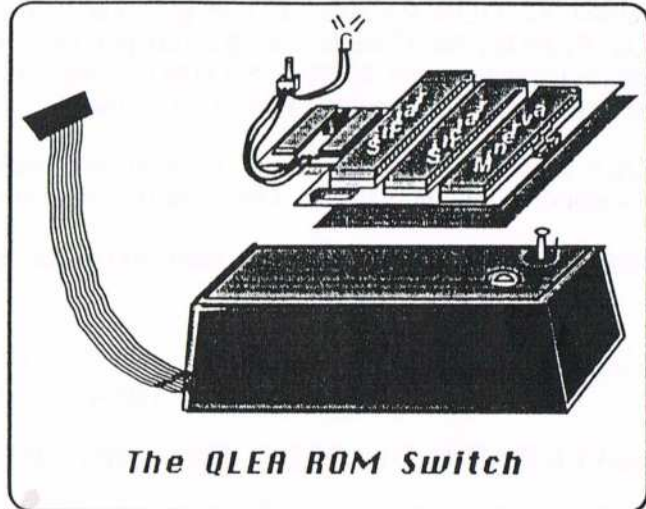
**User-friendly:** (adj. ) trivialized, slow, incapable, and boring. See: Icon, Mouse.

# QLEA

## ROM SWITCH (NOW ALSO FOR *Minerva* MK II)

IF YOU ALREADY HAVE *Minerva*, OR ARE THINKING OF GETTING IT THEN THIS IS THE IDEAL PRODUCT FOR YOU. NO MORE CRIES OF "THIS WON'T RUN ON *Minerva* ", NOW ALL YOU HAVE TO DO IS FLICK A SWITCH AND RUN YOUR SOFTWARE AS NORMAL!

The QLEA ROM switch allows both the normal QDOS ROMs and the *Minerva* EPROM to exist side by side in the same machine. At power up you can select which operating system you wish to work with by flipping the toggle switch mounted in the QL's case. The selected system is indicated by a bi-coloured LED - RED for the *Minerva* and GREEN for the normal QDOS operating system. The QLEA ROM switch comes in two models: Mark I for use with *Minerva* version 1, and Mark II.



The QLEA ROM Switch

There are two styles of Mark I; an internal model which fits inside the QL and consists of a fully assembled printed circuit board, a double pole switch, bi-coloured LED, wire and full fitting instructions, and an external model which is enclosed in its own case and requires no work to be done on it other than plugging its flying lead straight into the left hand ROM socket. Mark II can be supplied only in external form. Both leave room for a QIMI interface and both are fully compatible with the Miracle Gold Card. We can also supply *Minerva* at an advantageous price if bought with our ROM switch.

You can order the QLEA ROM switch either with or without the *Minerva* MK I by sending a cheque for the correct amount (DRAWN ON A STERLING BANK) to:-

QLEA  
c/o Chris. Howard,  
13 Oak Grove,  
Horsford,  
Norwich,  
Norfolk, U.K.  
NR103DR  
Tel (0603)891183

Product cost  
ROM Switch only (MK I int.) £25.00 + p & p  
ROM Switch only (MK I/II ext.) £30.00 + p & p  
ROM Switch with *Minerva* MK I £55.00 + p & p  
ROM Switch with *Minerva* MK II Please Ring

Postage and Packing

	ROM Switch	ROM Switch <i>Minerva</i>	ROM Switch ( ext.)
U.K.	£1.00	£1.50	£1.50
Europe	£1.00	£2.50	£2.50
Rest of World	£2.00	£4.00	£4.00

ALL MAJOR CREDIT CARDS ACCEPTED

QLEA is a sub group of QUANTA.

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**MECHANICAL AFFINITY  
CATERING TO THE SINCLAIR  
COMMUNITY IN NORTH AMERICA**

With two locations to serve you and provide accessories for your Sinclair, Timex-Sinclair or Cambridge computer. To obtain our newest catalog for the QL, Z88, TS2068, or other Sinclair machines, please send a legal size, self-addressed stamped envelope to one of the two listed locations, or phone (evenings or weekends), the numbers given below.

Recently, due to increasing demand on your part, we have added memory, cable and some software for the Z88. We have brought back some old favorites for the TS2068, and have added quite a bit to our QL inventory.

For the QL we now carry the full line of software and hardware from **JOCHEN MERZ SOFTWARE**, **DILWYN JONES COMPUTING**, and **DIGITAL PRECISION**.

We also carry hardware from **MIRACLE SYSTEMS** for your QL.

**MECHANICAL AFFINITY  
513 EAST MAIN STREET  
PERU, IN 46970  
317-473-8031**

**OR**

**MECHANICAL AFFINITY  
5231 WILTON WOOD COURT  
INDIANAPOLIS, IN 46254  
317-291-6002**

We strongly support the idea of Sinclair users supporting the Sinclair machines and vendors. If there is a new product you are looking for, perhaps we can be of help. We just keep getting better the more we serve you and learn!

# Jochen Merz Software

Software-Development - QL-Soft-&Hardware Distributor  
Im stillen Winkel 12 - W-4100 Duisburg 11  
Telephone and Fax : 0203-501274 Germany



The prices have changed, as the Dollar and Pound exchange rate changes so often. I enclose the DM price, which will always stay the same (of course!). So, if for example the Pound goes up again, you will be charged the same DM price, meaning less Pounds.

There are not very many news in this info, but a number of programs are updated to new versions.

**QD Version 4** - The first (and only) Editor using the PE. Dynamic memory allocation, no limit on nrs of lines, comfortable block-handling and many, many new features, e.g. improved print menu, better search/replace, GOTO Procedure and Function, even Machine code label. With new Menu Config which allows you to configure all programs using the standard CONFIG block, but menu driven. **£38 DM 98,80 \$66**

**QMenu - the Menu Extension V3** QMenu is a very easy to use interface with pre-defined menus (e.g. multi-column file-select, simple-choice boxes, select from lists, error handling). These menus may be used from SuperBASIC, machine code and other languages. **£13 DM 35,00 \$23.50**

**QSUP - System Utility Package** Different sorts of programs and extensions which help you setting up and using your machine (e.g. Translation-Table Editor, Notepad). **£26 DM 67,60 \$45**

**Thing & EPROM Manager** Do you want to put your Extensions, Things, Jobs etc. into EPROM? The EPROM Manager helps you by creating files which are ready-to-burn. It contains also the very useful Thing Extension II, which gives you full control over Things from SuperBASIC. **£18.50 DM 48.10 \$32**

**FiFi - the FileFinder** Running under the PE, FiFi is easy to use and extremely useful. FiFi scans devices or directory trees and searches files or filenames for strings. Combinations are possible, e.g. String1 AND string2 BUT NOT string3 etc. **£13 DM 33,80 \$22.60**

**DISA - Intelligent Disassembler** which allows you to disassemble interactively any kind of machine-code. Pointer-controlled. **£29 DM 75,40 \$50**

**QDOS Reference Manual** - This book is a must for all m-code programmers. It explains how to use QDOS, all traps and vectors, the Thing System, the HOTKEY System II and much more. It points out which features work on a QL, an Emulator and how to write compatible for future operating systems. DIN A5, over 170 pages. **£30 DM 78 \$52**

**QPTR - The Pointer Environment Toolkit** Revised manual which describes how to use the Pointer Interface and the Window Manager from SuperBASIC and machine code, even how to setup standard CONFIG tables. QPTR comes with examples on disc. All necessary keys, macros and extensions for SuperBASIC are supplied. **£30 DM 78 \$52**

**FLP/RAM Level 2** - Replacement EPROM for SuperQBoards (V1.17 onwards, with & without mouse) or TrumpCard (please specify)! Real sub-directories! QL-Emulator and Gold-Card compatible! With ATR-device (to read and write MS-DOS/ATARI discs). About twice as fast, with improved slave-block-handling! (Not JM ROMs!) **£19 DM 49,40 \$33**

**EASYPTR II** - Create your own PE menus & sprites, use them in your own SuperBASIC or machine-code programs. Creating Menus was not easy, until now! Put all the items you need on screen, that's it! Many examples and improved manual! **£49 DM 127,40 \$85**

**QDesign II - Graphic- and Design-program.** Running completely under the PE! Supports the Extended Mode4. Do you think anything else is to say about a very good graphics program?!  
For all 9 and 24 pin printers, Deskjet and Laserjet **£48 DM 124,80 \$83.20**  
**Font-Vector-Editor for QDesign** **£19 DM 49,40 \$33**

**SYSTEM - System Tools for QDOS:** real file-attributes are added, e.g. write-only, hidden or for selected users only. Works even over net and on winchester. New TRAP#3. New devices (equivalent to QL-Emulator): named pipes, MEM, NUL. 80 new procs & functions, e.g. WSET\_FATTR, WSET\_FTYPE, WSET\_FVERS, ADIR, ASTAT, HK\_GETB\$. **£27.50 DM 75,40 \$50.30**

**NEW: SER Mouse** - driver for a serial (e.g. DOS) mouse connected to one of the SER ports of the QL which then mimics the QIMI interface. In addition, if you have a three-button mouse the following features are available: ESC on centre button, left+centre is Wake, right+centre is Sleep. Supports HERMES now. **£14.90 DM 38.74 \$25.90**

ZX8301 **£7.50 DM 19,50 \$13**  
ZX8302 **£6 DM 15,60 \$10.40**

Diamonds **£11 DM 28,60 \$19**  
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The lonely Joker **£14.90 DM 38,74 \$25.90**

## New QL Emulator for ATARI STE

The new QVME emulator, which fits inside the VME bus of a Mega STE, is ready now! No soldering, you just plug it in. Fully programmable screen resolutions, from 512x256 pixels up to 1024 by 780 (even during run-time!) and programmable display rates etc! Please write for more information.  
**QVME-Emulator £269 DM 699,40 \$466**

If you are interested in buying a QL-Emulator for the ATARI ST range and you still do not know what you will get, then you should write to get more information. **QL-Emulator Extended4 £145 DM 377 \$251.40**

**New: QL-Emulators - history and programming documentation.** Not a user manual (which comes with the emulator). **£3.50 DM 9,00 \$6**

**NEW: E-Init software for QL-Emulator:** loads, runs and initialises a lot faster. Can boot completely from harddisk, with auto-start facility and a lot more. New manual, new disks. **£17 DM 44,20 \$29,50**

## A Spreadsheet running under the Pointer Environment!

**QSpread** is completely mouse- and keyboard-controllable and uses, of course, the Menu Extension. Windows may be enlarged up to the maximum screen area (i.e. large parts of the table visible on the Extended4-Emulator and forthcoming larger screen sizes), the application window may be split in up to three different horizontal and vertical sections, giving 9 independent controllable areas.

**QSpread** is, in the opposit to Abacus, formulae-orientated, giving the advantage that the formula of every cell may be modified at any time (whereas Abacus sometimes gives the numerical value of a calculation only). The formulae-parser has 22 scientific function, and, of course, the standard ones like row(), column(), sum, average etc. Every cell may be formatted independently, with many options (justification, decimal point etc.) and with preview. The monetary symbol may be longer than one character, e.g. DM. Sum- and other often-used macro-functions.

The size of the sheet is only limited by memory (16000 cells need about 400kBytes).

Easiest block handling by mouse. Block entry is very easy and useful, especially if you have a numerical pad: you select the block and enter the values one after the other. They are automatically place in the right order. No cursor-keys-action necessary!

Many additional functions, which belong to today's standard-equipment. Help, Button-function, use of the Scrap, all standard file operations, calculation order row or columns etc. [V1.07]

**QSpread introductory price £49 DM 127,40 \$85**

## Updates

Our update policy is very generous: updates on most products are free! Upgrades (i.e. major improvements on the products) are available at small charges. In general you only have to pay if new manuals are required. For updates and upgrades, just return the original disc and enough return postage (none, if updates come with an order, £2.40 (DM 6,00 \$4) for up to 5 discs or £4.80 (DM 12 \$8) for more.

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